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ABSTRACT

This study asks, "Are proprietary schools able to hold their students to graduation better than public schools?" "Who are the dropouts and what difference does completing a vocational program make? Do completers get better jobs and earn more than dropouts?" A total of 1,576 students were followed after they enrolled in 50 public community colleges and proprietary vocational schools for 28 months, until they graduated, transferred to another school, quit school to go to work, or dropped out entirely. The students were enrolled in three upper-level occupational programs (accounting, computer programming, and electronic technician training) and three lower level occupational programs (secretary training, dental assisting, and cosmetology) in schools in San Francisco, Chicago, Miami, and Boston. Of the original sample, 83% were interviewed at 6-month intervals until they left school. Results of the study showed: (1) the students most likely to drop out of both types of schools were poorer, minority students; (2) proprietary schools had greater holding power; (3) proprietary school students had, on the average, a 1 1/2 times greater chance of graduating within 2 1/3 years than those in public schools; (4) except in lower-level, female occupations, dropping out made no difference in students' job placements; dropouts from both types of schools had the same unemployment rates as did the graduates; and (5) dropping out had no effect on students' initial and later earnings; however, an important finding was that students with higher levels of ego development earned more over time. Based on these findings, it is concluded that vocational education is not an effective way to equalize students' opportunities in the labor market, and that proprietary schools are more efficient in providing entry-level job training than public schools. Recommendations are that students have access to information about schools' dropout rates and about jobs and earnings of past graduates; that the role of the more efficient proprietary schools in providing this training be expanded; and that the National Institute of Education give high priority to supporting research to redefine public vocational education needs. (Author/DB)

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VOCATIONAL EDUCATION AND SOCIAL MOBILITY: A Study of Public and Proprietary School Dropouts and Graduates

Submitted to the National Institute
of Education, June 11, 1980

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NOTE TO ALL READERS: The study described in the attached document was conducted with a grant from the National Institute of Education. The findings, interpretations, recommendations and opinions expressed in this report are those of the author. They do not necessarily reflect NIE position or policy, and no endorsement by NIE or the Department of Education should be inferred.

-ABSTRACT-

America's five billion dollar annual investment in public vocational education is premised largely on the assumption that students who persist long enough in school will develop "marketable skills." Those skills, according to the theory, will help students, particularly those from disadvantaged backgrounds to gain a foothold in the labor market and advance, thereby breaking the cycle of poverty.

This study tests that assumption by following 1,576 students after they enrolled in 50 public community colleges and proprietary vocational schools for 28 months, until they graduated, transferred to another school, quit school to go to work, or dropped out with no intention of returning. The study asks, "are proprietary schools, driven by the profit motive, able to hold their students to graduation better than public schools?" More important, the study asks, "who are the dropouts and what difference does completing a vocational program make? Do completers get better jobs and earn more than dropouts?"

Students followed by the study had been enrolled in three upper-level occupational programs (accounting, computer programming and electronic technician training) and three lower-level occupational programs (secretary training, dental assisting and cosmetology) in schools located in San Francisco, Chicago, Miami and Boston. Careful followup by the University of Chicago's National Opinion Research Center allowed us to find 83 percent of the original sample and interview those students at six month intervals until they left school.

Sadly, the study revealed the students most likely to drop out of both public and proprietary schools were poorer, minority students -- those for whom vocational education is through to provide a unique route into the opportunity structure. Results showed proprietary schools, where students paid to attend shorter programs, had greater holding power. Proprietary school students had on the average a 1½ times greater chance of graduating within 2 1/3 years than those in public schools.

The study further shows that except in lower-level, female occupations, dropping out makes no difference in students' job placement. No women and only 14 percent of the men who studied for upper-level jobs got the jobs for which they were trained. Graduates fared no better than dropouts. In lower-level jobs the findings were reversed with female graduates getting the jobs for which they were trained far more often. Dropouts from both public and proprietary schools had the same unemployment rates as graduates.

When we analyzed the effects of dropping out on students' initial and later earnings, we found none. Variations in earnings stemmed mainly from students' background characteristics. After adjusting for differences in backgrounds, dropouts earned as much as graduates. But, importantly, we found students with higher levels of ego development earned more over time.

On the basis of these findings, the study concludes that vocational education, which can do little more than reflect inequities in the larger society, is not an effective way to equalize students' opportunities in the labor market. The study notes growing evidence that points to the view that success in the labor market will increasingly depend on students' abilities to read, write, compute, think and get along with their fellow workers than on occupational skills. The study also concludes that proprietary schools, because of their incentive structure, are more efficient in providing entry-level job training than public schools.

The study recommends that all students should have access to reliable, verifiable information about schools' dropout rates and jobs and earnings of past graduates. In view of projections that point to rapid growth in entry-level jobs over the coming years, the study also recommends expanding the role of the more efficient proprietary schools in providing this training. Finally, the study recommends the National Institute of Education place a high priority on supporting research that aims to help redefine public vocational education for late 20th century needs.

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CHAPTER 1

HISTORICAL PERSPECTIVES

The period following the Civil War was marked by massive industrial and geographic expansion, social and political corruption, human exploitation and waste. Business, ruthlessly and successfully advanced its economic interests in a political climate that offered little resistance. Cities and towns sprouted like weeds where nothing had grown before. Between 1860 and 1910 the number of people living in urban areas multiplied sevenfold, and newly formed towns that housed them, grew helter-skelter (Hofstader, 1955). Many of the large numbers of people who were thrown together in new and shifting circumstances, particularly in the late 19th century, were immigrants from Eastern Europe who did not share the predominating Yankee values. Jane Addams noted for example that in the last quarter of the 19th century, four-fifths of the youngsters brought before the Chicago Juvenile Court were foreigners (Addams, 1910).

Public schools were expected to integrate these new Americans into the larger culture and to promote equality of opportunity through a classical curriculum for all regardless of students' backgrounds. But public schools, though democratic in intent, became undemocratic in practice. Students, particularly those from poor backgrounds, found little in common with dull, repetitive drill in Latin, Greek, mathematics and English. Instead they were enticed from school by low-paying, dead-end factory jobs. The moral and civic grounding promised by mass public education eluded the nation's lower classes, and consequently public schools came under heavy attack. They were accused of being corrupt, mentally deadening and out of touch with rapidly changing social needs (Grubb and Lazerson, 1974).

At the same time, the advance of industrialism promised to radically alter values basic to the American character. Men were replaced with machines.

To promote industrial efficiency, jobs were broken down into their simplest components so they could be done by anyone with a minimum of training. Consequently, the apprentice system virtually disappeared along with Old World standards of craftsmanship. The restoration of the American beliefs in the moral virtues of a job well done and equality of opportunity called for a powerful antidote.

MANUAL TRAINING AND THE PROMOTION OF EQUALITY OF OPPORTUNITY

As the political winds of the late 19th century began to shift, the view that government had a greater responsibility for its less fortunate citizens gained fresh currency, and school reform became a priority. One of the most promising avenues lay in manual training which fused mental and manual study in an educational approach that, according to one of its earliest advocates, Calvin Woodward, "put the whole boy in school." In America manual training was heavily influenced by a Swedish educational system known as "Slöyd," which literally means skill or dexterity. It emphasized the use of carpenters' tools and mechanical drawing for a wide range of educational purposes. The Slöyd system found quick acceptance among some American educators because, as an 1892 edition of the Santa Barbara Morning Press proclaimed:

> Slöyd develops the child physically, mentally and morally. It is intended to mean something more than mere mechanical skill--valuable as that is. Its object is the intelligent exercise of the whole body. It aims to develop character and to so train a child as to fit him in the future to become a useful and worthy citizen. (The Morning Press, Santa Barbara, December 13, 1892, p. 14)

The nation's interest in manual training before the turn of the century seems inevitable in retrospect. It was educationally sound, productive and wholly consistent with American values of the time. Educators assumed that manual training would make school more interesting to children who would then stay long enough to learn the basics and some manual skills and to explore some likely occupations. The process according to the common wisdom would promote equality of opportunity.

Despite manual training's promise, it never took a firm enough hold on the American mind to endure. Because it was eagerly and visibly extended to juvenile delinquents and southern blacks, its image became one of "philanthropic education for social deviants" (Grubb and Lazerson, 1974, p. 13). A national recession in the early 1890s also undercut manual training for the sake of economy (The Morning Press, Santa Barbara, June 16, 1894, p. 4). In 1910, David Snedden, Commissioner of Education for Massachusetts, faulted manual training for being liberal education in disguise which rarely resulted in any recognizable form of "vocational efficiency" (Snedden, 1910, p. 43).

MANUAL TRAINING GIVES WAY TO VOCATIONAL EDUCATION

But the ills of society that manual training sought to counteract continued to worsen into the 20th century. Dreiser and other social critics of the early 1900s described how large cities like Chicago became huge magnets, drawing in the "hopeful and the hopeless" (Dreiser, 1958). Industrial expansion was well under way and cheap, unskilled labor to fill a growing number of low-level, low-skilled jobs was in high demand. As cities became crowded with the hopeful and the hopeless, the more fortunate took these blind alley jobs, the less fortunate joined the growing unemployment lines, and the spector of social unrest became apparent. Meanwhile, Germany's drive for economic superiority and world domination was attracting attention from nervous America's leaders, as the Kaiser's industrial and agricultural production outstripped that of other world powers. A new mission for the schools was made explicit--to produce the manpower to run the industrial machine. Though calling on the public schools to create industrial manpower or a laboring class might seem to have been at odds with the new Progressive spirit, it reaffirmed certain bedrock American values. The reform movement that grew out of the experiments with manual training sought to democratize both public education and the workplace through vocational education. The chief characteristic that distinguished vocational education from manual training was that it was not a general educational program, but one to teach work skills to fit youngsters "for profitable employment" (Lapp and Mote, 1915). By 1907, the vocational education movement had developed with enthusiastic support from business, agriculture, labor, educators and social reformers.

Providing publicly supported vocational education would help assure equality of economic opportunity by equipping people with broad, technical skills necessary for employment in the new industrial order. Further, those who were fit and able would rise to their highest levels of efficiency, thereby promoting both industrial efficiency and democracy.

Vocational education supporters acknowledged modern industry's powerful influence in creating a class-bound society. The stifling jobs it created in the name of efficiency brought into existence a lower industrial class from which the unskilled could not escape. By offering youngsters a wide range of vocational choices and insuring broad transferable training, the schools could break this cycle and become advocates for both working men and women and industry. The blame was put gently at industry's feet by two visible advocates of vocational education:

> Perhaps industry is not to be held accountable for the cataclysmic period of individualism run riot, but industrial education will free the workers from the enticements of "blind alley" jobs, facilitate the realization of an economic democracy and in the end raze the bulwarks of class exploitation, an ideal from which industry certainly is not to emerge a loser (Lapp and Mote, 1915).

Another theme in the development of vocational education which had surprisingly radical overtones sought to check the growing power of industry over the individual and claim at least some control of the means of production for the worker. Industry's quest to maximize profits through efficiency required a systematic approach to management. Pioneered by Frederick Taylor around 1885, Scientific Management was perhaps the first organized study of work that broke it down into its simplest elements and directed systematic improvement in the workers' performance. Scientific Management assumed that human beings were machine tools, and that if their work and performance were scientifically controlled efficiency would greatly improve. Scientific Management divorced planning from execution. As Drucker pointed out, under Scientific Management workers were to do rather than to know, and corporate concerns about workers' welfare extended only to the job at hand (Drucker, 1954). But the needs of efficiency militated against human development.

> "Manufacturers want men," said a prominent manufacturer, ". . . who are content to stay at one machine process after they have become proficient in it" (Lapp and Mote, 1915, pp. 206-207).

Vocational educators maintained that industrial skills were the way out of repetitive, stultifying work. Vocational education would promote equality of opportunity by providing everyone the chance for industrial training. Industrial training would help working men to gain control over their own lives through economic self-sufficiency. Ultimately, the workforce would become so skilled, some reasoned, that employers would become dependent on their employees, forcing them to include employees in vital decisions that affected their lives.

> . . . as long as the worker is poorly trained, as long as he is an inefficient factor in production and his place is easily filled, he can be dominated through fear of losing a poor job. Let the worker become a skilled artisan or let him through combination or cooperation gain control of the supply of the product which he has to sell--then he becomes a potent factor in determining hours, wages and working conditions. Moreover, as soon as he becomes a skilled worker his power and importance as a citizen are enhanced and he begins to tamper with the machinery at the source of his master's political strength (Lapp and Mote, 1915, p. 357).

These proposals to increase individuals' sense of potency in the face of rapid industrial growth were only peripheral to their primary objective--to distribute workers more equitably in the occupational structure. The new industrial order was greatly advancing a class system based on occupations. People's occupations were in turn increasingly determined by their skills. Those from the least advantaged backgrounds were least likely to have access to education and skills, thereby comprising a disproportionately large share of the industrial lower class. Vocational education sought to challenge this "social aberration" by providing the masses with skills for employment and upward occupational mobility.

DROPOUTS

But vocational education advocates recognized the movement's dreams could not be realized unless children could be kept in school long enough for them to develop both work skills and a firm moral grounding. The statistics were not encouraging. In a study of 51 cities Ayres (1909) reported that from only three to 38 percent of children enrolled in school remained to finish high school. Most observers agreed that the root cause of dropping out was not a lack of intelligence. Dropouts, largely from the lower classes, left school for work because of economic necessity (Fuller, 1927). In 1914 Secretary of Commerce William Redfield testified before the Commission on National Aid to Vocational Education on the consequences to students of dropping out of school:

> . . . this pressure comes upon them when the academic education of the public school is incomplete and the mind is still unformed and, too often, at a pitifully young period of life; and they go out while almost children into what is to them the "blind alley" of life, the cold, hard, practical, sordid, business world, unfit for the competition, trained not even to get a foothold in it, to be in a wholly terrible proportion the victims of the very processes which, if they understood them and were trained in them, should be those by which they should rise in life (U.S. House of Representatives, Document #1004, 1914, p. 38).

As Cohen points out, though the Progressives launched a crusade against child labor, "It wasn't enough to shut the child out of the factory, he had to be got into the school" (Cohen, 1968, p. 97). One way to keep children in school was through compulsory education. But vocational education promised another by appealing to childrens' career motives:

> Primarily, it /the career motive/ is the motive of personal advancement. Show a man how he can better his economic condition by acquiring further knowledge, and he will assiduously seek to acquire it if his ambition has not atrophied; show a youth how the knowledge which the school gives couples up with a life-work . . . and he seeks the knowledge eagerly (Lapp and Mote, 1915, p. 43).

THE PRIVATE SECTOR

Though the business model was the rage, vocational education was to remain in the public domain, under public control. In deliberations that preceded the passage of the first vocational education act, the Smith-Hughes Act of 1917, advocates of vocational education worried about motives of private schools that had provided various kinds of vocational training since the 18th century. Profitmaking schools (or proprietary schools) included business schools, trade schools and corporation schools that provided narrow skill training for their own employees.

Miller notes private business schools grew slowly for 100 years after the first one was founded in Philadelphia in 1749. Between the close of the Civil War and 1932 the number of business schools, no doubt spurred by industrial expansion, multiplied one hundredfold from 20 to 2,000 (Miller, 1939).

Private trade schools that provided narrow skill training for mechanics were smaller in number than the business schools and grew far more slowly according to Mays (1927). While most of them were initially supported by private philanthropy or commercial interests, a trend developed in the early 1900s for public school systems to take them over. Mays notes the Milwaukee School of Trades, which was founded by the Merchants' and Manufacturers'

Association, was taken over by the City in 1907 and appears to have been the first public trade school funded with municipal taxes.

Corporation, or "vestibule" schools, were operated to supply individual firms with highly specialized workers and to reduce waste and improve safety. The range and importance of these schools can be seen in a partial listing of firms that had formed them by 1920: Western Electric, Goodyear Tire and Rubber, Ford, Packard, Winchester Repeating Arms, Carnegie Steel and many others.

Private interests in vocational education found stiff opposition on three main grounds. First, organized labor argued that private schools, lying outside of public control, would be used to circumvent the unions and foment anti-union sentiments among their students. Private vocational schools labor feared, would be used by employees to train scabs to break strikes. Also, labor noted, because the selection of students was privately controlled, these schools were "undemocratic and un-American" (Lapp and Mote, 1915).

Second, labor and social reformers felt that because most private schools operated for profit, the bottom line of the school's income statement would overshadow students' educational needs:

> These schools, operated for profit, which advertise short-cuts to the trades . . . are turning out not even machine specialists, but are flooding the labor market with half-trained mechanics for the purpose of exploitation (American Federation of Labor, 1909, p. 26).

The AFL also maintained that the corporation school graduate was able to earn, presumably because of the alleged inferior training, only 50 percent of the established minimum wage and was exploited by employers.

Though the quest for profits was an American hallmark, business motives were not totally trusted. Lapp and Mote observed:

> The young man who has no greater equipment than what he has got in the average business college is in a sad plight. He is headed for a blind alley from which he is very likely never to emerge (Lapp and Mote, 1915, p. 340).

Third, the public sector was thought to be more efficient in providing vocational education. Educators assumed its enormous resources could be coordinated better to produce more effective vocational training than the piecemeal approach found among the many, diverse, competing private schools.

However, despite a century or more of ostracism by public educators, proprietary schools have not only survived, but flourished. Estimates of this large and diverse sector indicate the 10,000-plus proprietary schools enroll from 1.3 million (National Center for Education Statistics, 1977) to three million students, and produce gross annual revenues of at least 2.5 billion dollars (Wilms, 1975).

As academic and business interests have merged over the past decade, public policymakers' and educators' opposition to proprietary schools has softened. As public schools have encountered shrinking budgets, they have looked to the private sector for effective recruiting techniques to bolster sagging enrollments and management practices to squeeze more mileage from the dollar. On the other hand, proprietary schools have been increasingly recognized in state education master plans and student financial aid legislation.

A CONTEMPORARY VIEW OF ADVANCING EQUALITY OF OPPORTUNITY THROUGH DROPOUT PREVENTION

Despite expanding enrollments in both public and proprietary vocational education, little is known about their comparative ability to promote equality of opportunity by holding students in school long enough to develop skills for profitable employment. Data are needed on public and proprietary schools' relative holding power, and the extent to which completing a vocational program improves graduates' employment and earnings.

As employers' hiring preferences and compulsory schooling ages have shifted upward over the past half-century, an increasing share of the public vocational education dollar has gone to postsecondary schools and their students. In 1979, 26 percent of vocational education expenditures went for vocational education at the postsecondary level. Likewise, recognizing employers' preferences, the private sector now largely caters to students over 17 years old.

The noncompletion rate among public school students, particularly those in community colleges, is a widely recognized phenomenon, though it is not well understood. A study done for the State of California more than 20 years ago found that 66 percent of students entering California community colleges were lost in the first year. By the end of the second year, the authors estimated 75-86 percent would have fallen by the wayside (Restudy, 1955). Medsker (1960) reported that 56 percent of the students entering community colleges did not graduate two years later, and Clark (1960) found that 83 percent of the students entering San Jose City College did not complete two years of work.

Seven years later, Hakanson (1967) reported that 60 percent of the occupational students in California community colleges dropped out before graduation. Citing American Association of Junior Colleges data, Medsker and Tillery (1971) reported that between 1958 and 1967, 50 percent of the students who entered community colleges nationally did not complete two years of work. Astin (1972) reported similar findings from a national survey, showing that 61.6 percent of community college students leave school before completing their studies.

Recognizing a potential problem in high noncompletion rates, the California Legislature in 1972 requested the California Coordinating Council to study attrition in the California Community Colleges. The Council (Knoell, 1974) reported that 40 percent of the entering students did not complete the first term, and 48 percent did not complete the second term. The study, however, did not attempt to link students' later earnings with their school persistence.

Proprietary schools, on the other hand, seem to succeed better in seeing their students through to graduation. Schaefer and Kaufman (1968) reported that in Massachusetts, 61-100 percent of the residential proprietary students complete their courses. Belitsky (1968) in his relatively narrow study of accredited trade and technical schools, found that the median completion rate for day students was 86 percent and 80 percent for night students. Further, Belitsky reported that 75 percent of the students who had dropped out of high school and were enrolled in proprietary schools completed their training. In another relatively narrow study of "successful" business schools, Erickson, and others (1972) reported similar findings, that about 85-90 percent of all proprietary school students at the schools Erickson visited, completed their programs.

While these studies have helped to further our understanding of dropouts they are of limited use for policymakers. The Restudy (1955), Medsker (1960), and Medsker and Tillery (1971) did not distinguish between occupational and transfer students. Clark's 1960 study, although brilliant, was limited to a single case study making generalizations difficult. The Knoell (1974) study provided an important insight into students' persistence in California community colleges, but it stopped short of helping us to better understand the meaning of dropping out by clarifying the relationship of students' persistence with their later earnings.

The few studies of noncompletions in proprietary schools are limited even more. The Schaefer-Kaufman (1968) study dealt only with proprietary schools in Massachusetts and relied on data provided by the schools themselves. The Belitsky (1968) study covered only a narrow range of accredited trade and technical schools. The Erickson (1972) study included only accredited proprietary business schools with "excellent reputations" and two community colleges.

This study attempts to assess the extent to which public and private schools are able to advance equality of opportunity, by analyzing the schools' ability to hold their students to graduation. We also seek to explain which students drop out of their vocational programs and most important to assess the effects of dropping out on subsequent job placement and earnings in the labor market.

CHAPTER 2

CONCEPTUAL FRAMEWORK AND DESIGN OF THE STUDY

This study, which builds on 1973 and 1975 studies of public and proprietary schools, takes the view that public and proprietary schools are conceptually distinct (Wilms, 1975). Privately-owned proprietary schools are rooted in the market and must make a profit to survive. Public schools are not directly dependent on the market for their income and survival. Instead, they are governed by publicly elected or appointed boards of trustees and are ultimately dependent on the political process for their income and survival. We hold the view that this essential difference determines how each type of school derives its income, allocates its resources and, most important, organizes its vocational programs. In this chapter we describe key characteristics of each kind of school which support this conceptual viewpoint.

PROPRIETARY SCHOOLS' INCOME, ALLOCATION OF RESOURCES AND CHARACTERISTICS:

A proprietary vocational school's income, in theory, is related to how well its graduates do in the marketplace. Most proprietary schools must hire, retain, and promote the teachers that do the best job of training students in tasks dictated by the job market. If their students do not get satisfactory jobs, these schools quickly lose their appeal. In short, the proprietary vocational school derives its income through the market mechanism.

The conditions of the labor market figure heavily in a proprietary school's decisions on how to allocate resources. To maximize their profits, these schools must do a better job of preparing their students for occupations than their competitors for a given cost. Proprietary institutions must always take into account signals from output markets when deciding where and how to spend time and money.

Because proprietary schools are dependent on the market for their survival, they organize their resources differently than public schools. For example:

--proprietary schools have limited objectives and programs. They are organizations with a "single purpose": preparing students for successful employment. They neither try to be, nor want to be, all things to all people.

--they select students with a high probability for successful placement, knowing their own success depends on the quality of jobs their students get. For example, Belitsky's (1969) study of trade and technical schools showed that admission to 47 percent of all occupational courses offered by the responding schools required a passing grade in an achievement or aptitude test. While many proprietary schools state certain prerequisites for admission, we and others found such requirements were often not enforced in all schools (Wilms, 1975; Anderson, 1977).

--They are flexible enough to accommodate the client (student) and potential employer needs. By offering short courses, proprietary schools recognize that a student's foregone income is the largest single expense of training. Year-round operations and frequent class starts, which make going to school easier for the student, are the norm. In their exploratory study of 38 proprietary schools in Santa Clara County, California, Kincaid and Podesta (1966) discovered that:

> Course content and time were two of the three factors mentioned most frequently by these students in explaining their decision to enroll in a proprietary school program . . . Students mentioned that when they had reached a decision to take a course, they could begin classes at once or at least within one or two weeks. There were no scheduling problems to cope with, and registration was a simple matter that involved only signing a contract and arranging for payment. Course length is directly related to course content /p. 17/.

In a 1975 study we found that proprietary vocational programs were short--about half as long as corresponding programs in the public sector. We found that in cases where proprietary schools kept the length of their programs to an absolute minimum, the total costs of training to the student were less than the virtually free but longer public vocational education. We found no evidence that reducing the length of a vocational program made any difference in students' placement or earnings (Wilms, 1975).

Also proprietary programs were more intensive, with students attending school an average of 25-30 hours each week, as opposed to the more leisurely public programs where students attended 15 hours per week, on the average.

We also reported that proprietary programs were also more flexible than comparable public programs. Proprietary students could begin their programs, on the average, twice as often as public students and could complete them significantly more often by taking only morning or afternoon classes. An interesting note--the few public schools that allowed such flexibility viewed it as "innovative."

Proprietary schools are geared to providing effective training at low cost. Both the Kincaid and Podesta study and the Belitsky study found proprietary schools frequently substituted inexpensive, yet effective, teaching methods--extensive use of work-study programs, audio-visual aids, programmed instruction, and team teaching--all practices considered "innovations" in public schools. We found evidence that proprietary schools were keenly sensitive to the costs of instruction and minimized them by paying their teachers on the average 65 percent of their public sector counterparts.

They also deployed their teaching staffs with costs clearly in mind by using their low-cost teachers more intensively than their higher-cost teachers. In all cases, proprietary school instructors carried a substantially heavier teaching load than public vocational instructors (Wilms, 1975).

Proprietary schools hire, retain, and promote their teachers on their demonstrated ability to teach. Instructors in proprietary vocational schools do not get tenure; students and school management evaluate them frequently--a practice, according to Belitsky, that would offend most public school instructors.

Proprietary schools emphasize job placement. Ninety-nine percent of the schools surveyed by Belitsky provided placement services for their graduates, and 80 percent provided the service for life. Belitsky also reported that 60 percent of the schools he surveyed had student follow-up procedures. At least 70 percent of the schools followed students from six months to one year after graduation.

Kincaid and Podesta (1966) corroborated these findings in their study: "The third factor that students mentioned as influencing their decision to attend a proprietary school was placement services /p. 17/."

Belitsky found proprietary school instructors frequently used job placement to motivate their students. When the schools surveyed were asked to rank incentives used to maintain student interest, they most frequently said, "Visits by employers or their representatives."

PUBLIC SCHOOLS' INCOME, ALLOCATING RESOURCES AND CHARACTERISTICS:

Public institutions offering vocational education closely resemble the bureau model formulated by Anthony Downs (1967). They tend to be large; they depend on full-time membership; and they hire, retain, and promote on a merit basis. They are also economically "one-faced," which is their most important characteristic for this study. While they must compete with other institutions for students and resources, their graduates are not directly evaluated in the market. Unlike private institutions, they do not depend on their performance in the marketplace for their income. It comes from a central budgeting agency, or through the political process.

Public institutions do not have the direct connection to output markets that gives "two-faced" organizations signals on where to allocate resources. Lacking these signals, public schools rely on last year's budget. Wildavsky (1964) and Downs (1967) ascribe major importance to last year's budget in determining this year's budget. According to Downs:

> Last year's budget represents an investment in obtaining consensus as well as in designing a given structure. Each bureau tends to move toward an equilibrium position embodying a consensus about its actions among its members, its clientele and other agents in its power setting. It implies that the status quo is tolerable enough so that no efforts to alter it will be launched by anyone with enough power to do so /p. 249/.

While this process provides the public institutions with stability (rarely will you see radical departures from last year's budget), it also means that budget or program changes will likely be conservative, and perhaps unrelated to market needs, to protect the internal order of the institution.

Because public institutions depend on the political process rather than the marketplace:

--they have multiple objectives and roles. Community colleges act as feeder schools for senior colleges, as valuable extensions of high schools where "late bloomers" can find themselves, and as vocational training institutions. In our 1975 study, we found more than 75 percent of the public vocational schools studied stated their highest priority was educating students for life, and only secondarily mentioned training for employment (Wilms, 1975).

--to meet their multiple objectives and to conform to state education codes, public vocational schools require more non-employment-related coursework, such as English, history and social studies.

--public vocational programs are less flexible in meeting student and employer needs because they must fulfill institutional and governmental regulations. Courses with comparable employment objectives are longer in public than proprietary schools, and begin less frequently (Morsch, 1970; Wilms, 1975).

--public schools have fewer incentives to provide training at lower cost. Morsch (1970) reported that public community colleges rarely substitute inexpensive teaching process such as programmed instruction, for high cost conventional instruction. In our 1975 study we reported that costs of instruction in public occupational programs was about 2 3/4 times more than comparable programs in proprietary schools. (Wilms, 1975)

--public vocational schools usually hire, retain, and promote on criteria other than a teacher's ability to teach. According to Medsker and Tillery (1971), teachers in many of the public community colleges are appointed and promoted on the basis of previous teaching experience, degrees held, and tenure.

--public schools also place less emphasis than proprietary schools on job placement. Academic counselors far outnumber occupational counselors and, according to Kincaid and Podesta (1966):

> When the role of the vocational counselor in public schools was discussed in student interviews, they observed that the guidance was general and concerned with qualifications for employment rather than employment leads /p. 17/.

Study Design

We designed the study to determine if there were systematic differences in the ways in which a large sample of postsecondary students persisted in their vocational programs over time. Because the universe of proprietary schools was unknown, and because of budget limits, despite generous continuing support from the National Institute of Education, it was impossible to draw a sample of schools from which we could generalize our findings to every school in the nation. Instead we designed the study to test a set of hypotheses outlined in Chapter 3, across a wide variety of schools, geographic regions and occupations. In this way we could be confident that our findings were not a result of only one kind of school, one region or one occupation. The occupations, metropolitan areas and schools selected for this study were the same as those selected from the 1975 study of public and proprietary training.

Occupations

We included six occupations for study which provided a range across the U. S. Census Occupational Classification. Accountants, Programmers and Electronic technicians are classified at the upper end of the U. S. Census scheme in the Professional, Technical, and Kindred workers. Secretaries are roughly in the middle of the classification in the "Clerical" category. Dental Assistants and Cosmetologists are at the bottom of the classification in the "Service" category. All six occupations are significant in terms of size. See Wilms (1975) for a complete description of each of the six selected occupations.

Metropolitan Areas

We chose four metropolitan areas that were politically and socially diverse and had differing higher education policies, industrial bases and labor market conditions. The metropolitan areas we chose for study were:

San Francisco Bay Area (Standard Metropolitan Statistical Area). California has the most extensive public postsecondary education system in the country and leads in the development of the community college concept. In California, public higher education is the rule--for every student enrolled in a private postsecondary school, ten attend a public institution of higher education.

The state has almost one million secondary and postsecondary students in vocational education. Seventy-seven percent of the funding for vocational education comes from local sources, which shows the emphasis on vocational training. The San Francisco Bay Area (SMSA includes the cities of San Francisco, the financial capital of the West; Oakland, an old, slow-growing (by California standards) city; plus a number of smaller cities that mark the shores of the Bay. The Bay Area has 12 community colleges with burgeoning enrollments, along with approximately 76 proprietary schools.

Miami (Standard Metropolitan Statistical Area). State education authorities suggested Miami as a site for study because of the wide range of vocational offerings in both public and private sectors. We found Miami varied from the other three cities in other interesting ways. Miami has clearly broken out of its old image (state song, "Old Folks at Home"). Nicknamed the "magic city," Miami has mushroomed 5,000 percent since 1910 and now has a population of 335,000, almost 20 percent of the state's population. Tourism is the largest industry, with 23 percent of Miami work force employed in services. Unlike most big cities, Miami has gained in both black and white population over the past ten years.

Florida's and Miami's topsy-turvy growth has another side. While Miami has the highest gross assessed valuation per capita of the four cities in our study, the state's incidence of poverty is almost double the national mean. Southern political patterns in Florida are apparent, with 59 percent of the state's black children in 100 percent black schools. (Only two percent of black children in Massachusetts attend all-black schools.) Florida's divorce rate is the highest of the four states and double the national mean.

Enrollments in higher education in Florida favor public over private institutions at about a 4 to 1 ratio. In Miami, postsecondary vocational education is offered at a technical school, a large, multi-campus community college, and 136 proprietary vocational schools.

Chicago. The third largest city in the country holds 63 percent of Illinois' population, and Chicago's central-city population stands at 3,367,000. Like most big cities, Chicago has seen an exodus of affluent whites and influx of poor whites, blacks, and browns. The black population alone is almost 33 percent of the total population--an increase of 38 percent in the past ten years. No longer the Hog Butcher for the world, Chicago is the most industrialized city in our sample, with 31 percent of its work force in manufacturing. The split between public and private higher education in Illinois is not as dramatic as it is in California; for every student in private higher education, only two are in public institutions. Chicago's postsecondary vocational needs are met in part by the seven campuses of Chicago City College, three other public institutions, and 62 proprietary schools.

Boston (Standard Metropolitan Statistical Area). While half of Massachusetts resides in the Boston SMSA, the central city contains only 641,000 people. The population has decreased eight percent over the past ten years. Although Blacks make up only slightly more than 16 percent, they have increased 70 percent since 1960. The white population has dropped 17 percent. Eighty-three percent of the work force is evenly spread among manufacturing, trade, services, and government. In terms of education, Massachusetts is the flip-side of California; for every one public institution, Massachusetts has three private schools. Following the New England "localist" tradition, 83 percent of the funds for vocational education are generated locally. Within the Boston SMSA, most vocational education resources go for secondary education. Only one community college serves the core city. Filling the void are 96 proprietary vocational schools and an assortment of private, nonprofit, two-year colleges (Wilms, 1975).

Schools

We obtained the universe of public and proprietary schools that provide training for the six occupations under study from state listings, national accreditation lists, the Yellow Pages, and articles and advertisements in local newspapers. We phoned each school to find out their total enrollments during the 1972-73 academic year. Also, we wanted to insure the vocational programs they offered were among the six under study. From these, we drew a random sample of 21 public and 29 proprietary schools (with replacements), large enough to yield sufficient students for study.

We sent a registered letter describing the study to each of the sample schools, asking them to participate. The project staff followed up to confirm each school's acceptance. All 21 public schools agreed to participate. Only two of the 29 proprietary schools declined, and they were replaced. One school, a member of a national chain, declined because of litigation pending with the Federal Trade Commission. The other school would give no reason. The distribution of public and proprietary schools by occupation and geographic area is displayed in Table 1.

TABLE 1

NUMBER OF PUBLIC AND PROPRIETARY SCHOOLS RANDOMLY SELECTED FOR STUDY BY OCCUPATION AND GEOGRAPHIC AREA

	San Francisco Bay Area		Chicago		Boston		Miami	
Occupation	Public	Prop.	Public	Prop.	Public	Prop.	Public	Prop.
Accounting	1	2	2	2	2	1	-	-
Electronic data processing-programmer	-	-	3	1	2	1	1	2
Dental assisting	2	3	-	-	4	2	-	-
Electronic technician	-	-	1	1	-	-	2	1
Secretarial	1	1	1	1	1	3	1	2
Cosmetology	3	4	-	-	-	-	1	6
Totals	7	10	7	5	9	7	5	11

Note--Total number of schools shown in Table 1 will exceed 50, as some schools offered more than one occupational program of interest and were counted more than once.

Students

As part of the survey for our 1975 study, we asked all 50 schools to identify students in the six selected occupations who had begun their programs in September 1973. We asked the schools to identify full-time students who were studying during the day for a certificate, diploma or associate's degree. We also asked the schools to identify students who were enrolled in programs of interest on a part-time night or weekend study basis. In October, 1973, we visited each school and administered a questionnaire to 1,576 beginning students.

Table 2 shows the distribution of these students by their type of school and selected background characteristics. They were almost evenly divided between public and proprietary schools with 49 percent (n = 781) in public and 51 percent (n = 795) in proprietary schools. Public vocational schools enrolled slightly more whites and blacks than proprietaries which enrolled substantially more students of "other ethnicities." "Other ethnicities" refers to students of Hispanic, Asian and Native American ethnic backgrounds, which by themselves did not constitute a large enough group for analysis. As Table 2 shows, public schools enrolled a smaller proportion of females than did the proprietaries. Students who were non-citizens heavily favored proprietary schools. Table 2 also shows public and proprietary students in this sample were similar in age. Almost half of each group was between 18-20 years. Finally, we can see from Table 2, high school dropouts slightly favored proprietary schools while graduates of college preparatory high school programs tended to enroll more frequently in public vocational programs. A small number of students reported they had bachelors' degrees and they tended to go to proprietary schools. In a 1973 study, we analyzed this phenomenon and concluded that many of the students with bachelor's degrees who returned to vocational schools were relatively disadvantaged students who had received their degrees outside of the United States (Wilms, 1973).

Longitudinal Follow-up with NORC

We contracted with the University of Chicago's National Opinion Research Center (NORC) to relocate the sample of 1,576 in February 1975, 16 months later. NORC agreed to reinterview respondents at six month intervals until they had graduated, taken a full-time job with no plans to return to school, dropped out with no intention to return to school or transferred to another school.

TABLE 2

CHARACTERISTICS OF BEGINNING STUDENTS BY TYPE OF SCHOOL (IN PERCENTS) (n = 1,576)

	Public	Proprietary
Ethnicity		
Black	20 (155)	17 (130)
White	61 (476)	57 (446)
Other	19 (145)	27 (211)
Sex		
Male	33 (259)	26 (202)
Female	67 (522)	74 (593)
Citizenship		
Citizens	89 (693)	79 (622)
Non-citizens	11 (87)	21 (166)
Age		
17 and under	12 (91)	14 (107)
18-20	48 (371)	47 (370)
21-23	13 (102)	15 (120)
24 and over	27 (213)	25 (194)
Education Status		
High School Dropout	6 (51)	9 (72)
General/Vocational High School Graduate	54 (416)	53 (416)
College Prep High School Graduate	36 (272)	30 (232)
BA or Graduate Degree	4 (30)	8 (61)

In February 1975, NORC was able to locate and interview 1,370 respondents, resulting in an extraordinarily high completion rate of 87 percent. Of the completed interviews, 67 were unusable because respondents had enrolled in vocational programs outside the definitions of this study, and were deleted, bringing the sample size to 1,303 or 83 percent of the original sample. See Chart 1 for the schedule of the interviews.

Chart 1

INTERVIEW SCHEDULE

	Date	Sample Size of Those Remaining in School
Entering	October 1973	1,576
Wave I	February 1975	1,303
Wave II	August 1975	336
Wave III	February 1976	122

Totals: Elapsed time = 28 months
Completed interviews = 3,337

NORC used a variety of survey techniques to maximize the effectiveness of our limited funds. NORC staff began the interviews with a self-administered questionnaire with one follow-up. If that approach failed with a respondent, they switched to a telephone interview approach. In the small number of cases where a telephone interview failed, NORC resorted to the most expensive approach, sending an interviewer personally to the respondent's home. Sixty-two percent of the NORC interviews were self-administered, 37 percent done by telephone, and one percent by a personal visit.

Characteristics of Missing Respondents

We wanted to know how the characteristics of the missing respondents compared with the characteristics of those who successfully graduated. Table 3 shows the results of a series of analyses of variance which contrasted characteristics of missing students with graduates. The statement of significance in the right column indicates the probability a finding was produced by chance. For example, the first statement that blacks were significantly more heavily represented among missing students (27 percent compared with 16 percent), $p < .009$, means that the probability is nine in 1,000 the finding was produced by chance. Other comparisons show that students NORC could not locate were significantly more often males of ethnic minorities who were non-citizens, over 21, who when compared with successful graduates were more prone to have dropped out of high school and were more frequently from families which earned $7,000 or less per year. Finally 60 percent of the missing students had enrolled in proprietary schools.

This comparison confirms that those with the weakest grip on the education system are the least advantaged students. They fall by the wayside faster than their more advantaged classmates and become virtually lost to the researcher.

We now turn to a detailed analysis of the data.

TABLE 3

SUMMARY OF MISSING STUDENTS' CHARACTERISTICS COMPARED WITH GRADUATES'

Characteristic	Percentage of Missing Students	Percentage of Graduates	Significance
Ethnicity			
Black	27 (73)	16 (212)	p< .009
Other Ethnicities (excluding whites)	35 (96)	20 (260)	
Sex			
Males	38 (103)	28 (358)	p< .001
Citizenship			
Noncitizens	30 (80)	13 (173)	p< .001
Age			
Over 21 years	53 (144)	37 (485)	p< .001
Education Status			
High School Dropouts	13 (33)	7 (90)	p< .028
Parental Income while in High School			
$7,000 or less	44 (110)	33 (409)	p< .002

CHAPTER 3

WHO DROPS OUT?

In the preceding chapter we reviewed earlier research that showed public and proprietary vocational training programs to be considerably different from each other. We pointed out that proprietary schools have generally limited objectives and meager resources which they concentrate on clearly defined skill training. Proprietary school vocational programs are on the average, half as long as comparable public school vocational programs. Proprietary programs are not only shorter, they appear to be more flexible than their public counterparts, apparently so they can more easily accommodate students from diverse backgrounds, many of whom cannot attend school during conventional hours. Students in proprietary schools can begin their programs, on the average twice as often as students in public schools, and can complete them more often by taking only morning or afternoon classes. Many proprietary schools divide their curricula into smaller self-contained, but related units to allow less-confident students to complete the program step by step. This appears to provide students with immediate successes, helping many of them to overcome the negative effects of past school failures. Finally, as we and others have shown, most proprietary schools offer active placement services. These findings produce a view of proprietary schools as more responsive to student and labor markets than public schools. Proprietary schools, so it appears, must do a better job of preparing their students for employment than their competitors, to survive. A major component of effective preparation for employment is insuring students complete their programs of study. Because proprietary schools must depend on both the student market and the labor market for their survival, our central hypothesis is:

> All other things being equal, proprietary schools will hold their students to graduation significantly more often than their public counterparts.

This hypothesis by itself is trivial, and only scratches the surface of our interests. But it helps to organize the study and the way we have approached the data. Our real interests go to the more important issues which include the following research questions:

--Who are the students who drop out and how do they differ from those who graduate?

--How can we explain why some students drop out and others do not?

--What difference does it make if a student drops out of his or her vocational program? How do dropouts fare in the job market compared with graduates?

--How important is dropping out in explaining variations in students' incomes?

STRATEGY FOR ANALYSIS

Our analysis has two parts. In the first part we show how certain variables are associated. For example, we wanted to find out how both students' background characteristics, and dropping out or completing a vocational program are related to later job placement and earnings. To show these associations we analyzed the data using cross tabulations, analysis of variance, and selected non-parametric techniques explained later. In the second part we wanted to determine the relative important of students' background characteristics and their schooling experiences in explaining variations in their earnings on their first and last jobs. To show these associations, we analyzed the data using multiple regression analysis.

TEST OF CENTRAL HYPOTHESIS

Table 4 shows that in six of the eight occupational groups, which controlled for sex, proprietary school students are far more likely to complete their programs than public students ($p < .001$). In the other two cases, the completion rates were nearly equally low for both public and proprietary students. Only 39 percent of the women who studied in public schools to become accountants completed their programs compared with 40 percent of the women in proprietary schools. Fifty-three percent of the men who studied to become electronic technicians in public schools completed their programs compared with 48 percent of the men in proprietary school electronic technician programs.

Table 4 shows that contrary to the conventional wisdom, most public students do not take unusually long times to complete their programs. A full 86 percent of the public students had either graduated, or in their judgement, dropped out not to return 2 1/3 years after entering. Similarly, within 2 1/3 years, 97 percent of the proprietary students had either graduated or dropped out.

It is interesting to note the extraordinarily high completion rates, 70 percent and higher, for proprietary students in computer programming, secretarial, dental assisting and cosmetology programs.

Our central hypothesis was confirmed: more than two thirds (69 percent) of the proprietary students completed their programs within 2 1/3 years compared with less than half (46 percent) of the public students. In other words, within 2 1/3 years proprietary students' chances are 1½ times better of completing the program of their choice than public students' ($p < .001$).

TABLE 4

DISTRIBUTION OF STUDENTS BY TYPE OF SCHOOL, COMPLETION WITHIN 2 1/3 YEARS, SEX AND PROGRAM
ROW PERCENTS (n = 1260)

	PUBLIC				PROPRIETARY			
	Complete	Not Complete	Still in School	Total	Complete	Not Complete	Still in School	Total
Male Accountant	24 (16)	50 (33)	26 (17)	100 (66)	51 (18)	43 (15)	6 (2)	100 (35)
Female Accountant	39 (27)	47 (33)	14 (10)	100 (70)	40 (17)	53 (23)	7 (3)	100 (43)
Male Programmer	43 (29)	35 (24)	22 (15)	100 (68)	70 (21)	23 (7)	7 (2)	100 (30)
Female Programmer	40 (22)	44 (24)	16 (9)	100 (55)	71 (5)	29 (2)	0 (0)	100 (7)
Male Electronic Technician	53 (36)	32 (22)	15 (10)	100 (68)	48 (34)	45 (32)	7 (5)	100 (71)
Female Secretary	43 (51)	46 (55)	11 (13)	100 (119)	70 (156)	28 (63)	2 (5)	100 (224)
Female Dental Assistant	61 (88)	28 (41)	11 (15)	100 (144)	93 (117)	6 (8)	1 (1)	100 (126)
Female Cosmetologist	48 (29)	46 (28)	6 (4)	100 (61)	70 (51)	30 (22)	0 (0)	100 (73)
TOTALS	46 (298)	40 (260)	14 (93)	(651)	69 (419)	28 (172)	3 (18)	(609)

Proprietary schools' superior holding power can be explained partly because they enroll greater numbers of full-time students who tend to finish faster than part-time students. This however seems to be a weak explanation. Of the 368 part-time students 43 percent was enrolled in proprietary schools. But 47 percent of the part-time students in public and proprietary schools combined, finished their programs within 2 1/3 years--a higher completion rate than full-time students in public schools. Indeed, only 12 percent of the part-time students were still in school 2 1/3 years later compared with 8 percent of the full-time students.

We think that the explanation of the proprietary schools' superior holding power lies elsewhere, and can be explained in at least two ways. First, students pay to attend. In this sample proprietary students paid from $412 to $3,024 for the courses of study. Even though 26 percent of them defrayed their tuition with loans, there can be little doubt that paying their own way increased their motivation to complete school. Second, the way proprietary schools organize their instruction into short, job-focused programs likely encourages more students to complete them than the longer, more generally focused public school programs.

WHO COMPLETES THEIR PROGRAMS?

Behind a presentation like the one that follows lie countless hours a researcher spends, searching for patterns in the data to unfold the story. The researcher is guided in that search by theory, past experience, hunches and luck. In analyzing these data, we found that students' ethnic backgrounds were always associated with other important background characteristics in a systematic way. Therefore, to describe how students who completed their programs differed from those who did not, we used "ethnicity" as one "independent" variable with "program completion" as the other. "Program completion" has three levels. Students either graduated, did not graduate and left school, or were still in school at the time of the last interview. Within this classification, a student who persisted through the entire program, but missed a single course which kept him or her from technically graduating would be considered a "non-completer." To avoid labelling students "non-completers" who had virtually completed their entire program, but who had not graduated, we created an additional variable we called "persistence." "Persistence" measures how long a student persisted in the program, independent of whether or not he or she graduated. We created the persistence variable from the months students actually spent in school. Because programs were of different lengths we could not meaningfully compare raw months across programs. For example electronic technicians' programs were much longer than dental assistants', and public programs were on the average twice as long as comparable proprietary programs. To control for these built-in differences, we standardized students' persistence within each of the 16 programs (e.g. public and proprietary male accountants, female accountants, male programmers, female programmers, male electronic technicians, female secretaries, female dental assistants and female cosmetologists). We calculated each student's persistence score, and divided the distribution into thirds: shortest persisters, average persisters, longest persisters. As a fourth level we added those students who were still in school. The distribution of standardized persistence scores within each cell has a mean of 0, and a standard deviation of 1. This technique allowed us to compare the effects of different public and proprietary programs and it also allowed us to control the effects of sex (see Appendix 1).

For the most part, students' completion and persistence were related in the same way to their background characteristics independent of whether or not they attended public or proprietary schools. So, when we analyzed the relationship of students' background characteristics to their program persistence and completion we were able to discuss public and proprietary students simultaneously. Readers should not accept our findings without analyzing the data for themselves. The following few pages contain a short lesson in how to do it.

SOCIOECONOMIC STATUS, BY ETHNICITY AND PROGRAM COMPLETION

Tables 5 and 6 help us answer the question, Are students' ethnic backgrounds, and their school persistence and completion significantly related to their socioeconomic backgrounds?*

By socioeconomic background or status, we mean a student's relative ranking on a score made up of mother's and father's educational level, father's occupation and family income. Table 5 shows that students' ethnic backgrounds are significantly ($p < .001$) related to their socioeconomic status. The key in the lower left corner of Table 4 shows that an SES score of 1 is low, 2 is medium and 3 is high. Following the horizontal margin of Table 5, we see that whites had the highest SES score, with an average, or mean of 2.14. Students of "other ethnicities" had an average of 1.87 and blacks had the lowest SES at 1.53, almost midway between medium and low. Though highest SES whites and students of other ethnicities completed their programs, and lowest SES whites and students of other ethnicities were still in school, blacks did not differentiate themselves by SES and completion. The numbers in parentheses indicate the number of respondents in each category. Overall, the analysis of variance did not show a significant relationship between program completion and SES. But, a t-test** between average SES scores for students who completed their programs compared with those who did not show a significant difference ($p < .018$) between them. Students who completed their

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*See Wilms, 1975 for a complete discussion of the socioeconomic status measure.
**Using the studentized range.

TABLE 5

SOCIOECONOMIC STATUS BY ETHNICITY AND PROGRAM COMPLETION

	Black	White	Other	Weighted Means
Completed Program	1.51 (61)	2.18 (451)	1.95 (105)	2.07 (617)
Did not Complete Program	1.56 (72)	2.11 (222)	1.79 (62)	1.94 (356)
Still in School	1.53 (17)	2.0 (51)	1.63 (19)	1.83 (87)
Weighted Means	1.53 (150)	2.14 (724)	1.87 (186)	

Key: 1 = Low
2 = Medium
3 = High

TABLE 6

SOCIOECONOMIC STATUS BY ETHNICITY AND PROGRAM PERSISTENCE

	Black	White	Other	Weighted Means
Shortest Persistence	1.54 (50)	2.18 (194)	1.74 (53)	1.99 (297)
Average Persistence	1.65 (40)	2.22 (296)	1.97 (61)	2.13 (397)
Longest Persistence	1.43 (40)	2.04 (179)	1.96 (51)	1.93 (270)
Still in School	1.53 (17)	2.00 (51)	1.63 (19)	1.83 (87)
Weighted Means	1.53 (147)	2.15 (720)	1.86 (184)	

Key: 1 = Low
2 = Medium
3 = High

programs had significantly higher SES, 2.07, than those who did not complete, 1.94.

SOCIOECONOMIC STATUS BY PERSISTENCE

In Table 6, we substituted "persistence" for "program completion." Again, as we would expect, we found a significant ($p < .001$) relationship between ethnic background and SES that operates in the same way we reported in Table 5. However, here we get a clearer picture of the relationship between students' SES and persistence in the program. The analysis of variance showed that SES and persistence were significantly ($p < .024$) related. Students with the highest SES, 2.14 persisted the average amount of time. Those who left school the fastest, or stayed in an abnormally long time had the next lowest SES scores, 1.99 and 1.93 respectively. Students who were still lingering in school three years after entering had the lowest SES, 1.83.

So, from Tables 5 and 6 we can say that within this sample, whites had the highest SES, and blacks the lowest. More important, those students who completed their programs, or persisted in school the average amount of time had the highest SES, and that students who dropped out, or lingered in school an abnormally long time had the lowest SES.

AGE BY ETHNICITY AND PROGRAM COMPLETION

Table 7 shows that students' ages were significantly associated with both their ethnic backgrounds ($p < .007$), and whether or not they completed their programs ($p < .007$). White students were the youngest, and blacks the oldest. Students who completed their programs were generally the youngest. Those who left school before graduating were generally the next youngest, and those who were still in school the oldest. A t-test between means, shows that the strongest difference in age lies between the students who completed

TABLE 7

AGE BY ETHNICITY AND PROGRAM COMPLETION

	Black	White	Other	Weighted Means
Completed Program	2.97 (85)	2.42 (503)	2.64 (135)	2.52 (723)
Did not Complete Program	2.94 (102)	2.64 (243)	3.02 (86)	2.79 (431)
Still in School	3.17 (24)	2.76 (58)	2.84 (31)	2.87 (113)
Weighted Means	2.97 (211)	2.51 (804)	2.79 (252)	

Key: 1 = 17 and under
2 = 18-20
3 = 21-23
4 = 24-26
5 = 27+

their program, and those who did not ($p < .001$). A t-test between means did not show a significant difference between non-completers and those who were still in school.

AGE BY ETHNICITY AND PERSISTENCE

Table 8 shows that age and persistence were also significantly related ($p < .001$). Students who persisted the average and longest amounts of time were the youngest, and those who left school the earliest or stayed on an abnormally long time were the oldest.

EDUCATIONAL STATUS BY ETHNICITY AND PROGRAM COMPLETION

Table 9 shows that educational status* and ethnicity were significantly associated ($p < .001$). White students had the highest educational status, and blacks the lowest. The analysis of variance indicated a non-significant trend for students with low educational status not to complete their programs. A t-test between mean educational status scores for completers and non-completers showed completers had significantly higher educational status ($p < .05$). Students' educational status scores were not significantly related to their persistence in school.

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*Educational status refers to the level and status of conventional education reported by the student. The variable has four levels which are:

1. Dropouts: students who reported they did not complete a high school program but were in postsecondary vocational training.
2. Graduates of a general or vocational high school program: students who reported completing a high school program designated either "general" or "vocational" but not "college preparatory." Project Talent (1968) indicates these students are in the lower ability quartiles.
3. Graduates of a college preparatory high school program: students who completed a high school program designated "college preparatory."
4. Bachelor's Degree and higher: students who completed a college program and were awarded a bachelor's degree or a graduate degree.

TABLE 8

AGE BY ETHNICITY AND PROGRAM PERSISTENCE

	Black	White	Other	Weighted Means
Shortest Persistence	3.07 (75)	2.81 (216)	3.22 (69)	2.94 (360)
Average Persistence	2.70 (50)	2.34 (322)	2.73 (81)	2.45 (453)
Longest Persistence	3.05 (59)	2.42 (201)	2.39 (67)	2.53 (327)
Still in School	3.17 (24)	2.78 (58)	2.84 (31)	2.87 (113)
Weighted Means	2.99 (208)	2.52 (797)	2.79 (248)	

Key: 1 = 17 and under
2 = 18-20
3 = 21-23
4 = 24-26
5 = 27+

TABLE 9

EDUCATIONAL STATUS BY ETHNICITY AND PROGRAM COMPLETION

	Black	White	Other	Weighted Means
Completed Program	2.13 (85)	2.48 (499)	2.28 (131)	2.40 (715)
Did not Complete Program	2.11 (99)	2.43 (243)	2.24 (84)	2.32 (426)
Still in School	2.26 (23)	2.40 (58)	2.55 (33)	2.41 (114)
Weighted Means	2.13 (207)	2.45 (800)	2.30 (248)	

Key: 1 = High school dropout
2 = General/Voc high school program
3 = College prep high school program
4 = BA+

EGO DEVELOPMENT BY ETHNICITY AND PROGRAM COMPLETION

As we reported in 1975, we reviewed various theories and measures of achievement motivation and decided on the most promising--the concept of ego development originated by Adler (1956), not to be confused with Freud's work. Loevinger (1970) operationalized the concept and the University of Chicago's Fred Strodtbeck related it to the achievement motive (see Appendix 3).

The ego development concept maintains that by adulthood an individual develops a fairly stable ego level. In terms of the achievement motive, those at high ego levels tend to pursue goals they find intrinsically rewarding out of a sense of inner-directedness. Those at lower ego levels tend to behave opportunistically, with a marked dependence on extrinsic rewards.

Individual differences in ego development are measured by a sentence completion test in which the subject completes a series of at least 12 stubs such as "Education . . .," or "What gets me into trouble is . . . " (see Appendix 3 for a more complete discussion of this measure and examples of sentence completions).

Arrangements were made with Fred Strodtbeck and Stephen Hansell of the University of Chicago's Social Psychology Laboratory to identify and score protocols for this sample of students.

Table 10 shows students with high levels of ego development were most often white ($p < .001$) followed by blacks and students of other ethnicities. Students with high ego development had the highest educational status ($p < .001$) and made fewer grammar errors than their classmates with lower levels of ego development.

In our 1975 study, we reported an interesting relationship between students' ego development and perceptions of their probability of successfully completing school. When asked about their confidence to finish school those

TABLE 10

EGO DEVELOPMENT BY ETHNICITY AND PROGRAM COMPLETION

	Black	White	Other	Weighted Means
Completed Program	4.40 (85)	4.77 (498)	4.10 (134)	4.60 (717)
Did not Complete Program	4.41 (100)	4.81 (243)	4.21 (85)	4.60 (428)
Still in School	4.17 (24)	4.57 (58)	4.06 (33)	4.34 (115)
Weighted Means	4.37 (209)	4.76 (799)	4.13 (252)	

Key: 1 = Low
2 =
3 =
4 =
5 =
6 =
7 =
8 = High

with low ego development felt their chances were less than those with higher ego development. Table 10 partly confirms students' earlier views as it shows those with the lowest ego development were significantly less likely to complete their programs ($p < .025$) but rather linger on in school an abnormally long time.

For blacks and whites, both completers and non-completers had similar ego levels, though in all cases students still in school had the lowest. Ego development was not significantly associated with persistence, possibly in this case because public students who tended to drop out of school or stay in school an abnormally long time had significantly higher ($p < .017$) ego development levels than proprietary students.

SOCIAL PRAGMATISM BY ETHNICITY AND PROGRAM COMPLETION

What we call "social pragmatism" partly reflects the concept Marlowe and Crown (1964) developed called "social desirability." A person rating high on social desirability would tend to act so as to gain the approval of others. For people high on social desirability motivation, the approval of others is a highly valued goal in itself. They are concerned with social appearances and are sensitive to the opinions of others in their behavior. Those same people rank low on ego development.

Fred Strodtbeck of the University of Chicago's Social Psychology Laboratory and Stephen Hansell of Johns Hopkins University developed questions that incorporated the social desirability concept, but unlike the Marlow and Crown items, which were more general in nature, these were job-related. We factor-analyzed the items, which resulted in a factor we called "social pragmatism" (see Appendix 3 for factor-loading scores). The items that made up this factor reflected opinions of the respondents about behavior necessary to succeed in the job for which they were training, or had trained.

The questions were:

> "In this job, is it necessary to say or do things that others will like?"
>
> "Can a person in this job speak his or her mind without fear?"
>
> "To be successful in this job, is it frequently necessary to be able to tell a lie with a straight face?"

A student who would rank high on the social pragmatism scale would have answered "yes" to the first and last questions, and "no" to the second one.

Table 11 shows students' ethnicity and social pragmatism were significantly ($p < .02$) related. Students of other ethnicities had the lowest social pragmatism rating followed by blacks and whites, who had the highest.

While program completion was not significantly related to social pragmatism overall, there was a significant relationship between the ratings of the completers and those who were still in school at the time of the last interview ($p < .05$). The completers had the lowest social pragmatism rating, and those in school the highest. By comparing the results of Tables 10 and 11, it can be seen that program completion and ego development generally work in opposite directions--those with higher ego development levels, who are more internally oriented and motivated, tend to have the lowest social pragmatism ratings. Put another way, the higher ego students apparently need to depend less on others' approval.

HIGH SCHOOL GRADE POINT AVERAGE BY ETHNICITY AND PROGRAM COMPLETION

We wanted to know if students' high school grades would predict which students would graduate from postsecondary vocational training. Despite wide variations in types of high school programs and grading practices, Table 12 shows that high school grades and program completion are

TABLE 11

SOCIAL PRAGMATISM BY ETHNICITY AND PROGRAM COMPLETION

	Black	White	Other	Weighted Means
Completed Program	.00 (77)	.04 (476)	-.14 (127)	-.00 (680)
Did not Complete Program	-.08 (93)	.00 (226)	-.09 (82)	-.04 (401)
Still in School	.10 (23)	.16 (55)	.10 (28)	.13 (106)
Weighted Means	-.03 (193)	.04 (757)	-.10 (237)	

Key: 1 = High social pragmatism
0 = Medium social pragmatism
-1 = Low social pragmatism

TABLE 12

HIGH SCHOOL GRADE POINT AVERAGE BY ETHNICITY AND PROGRAM COMPLETION

	Black	White	Other	Weighted Means
Completed Program	2.48 (83)	2.39 (498)	2.35 (132)	2.39 (713)
Did not Complete Program	2.53 (102)	2.54 (243)	2.43 (86)	2.52 (431)
Still in School	2.71 (24)	2.48 (58)	2.52 (33)	2.54 (115)
Weighted Means	2.53 (209)	2.44 (799)	2.40 (251)	

Key: 1 = Excellent (A's)
2 = Good (B's)
3 = Average (C's)
4 = Poor (D-F)

significantly (p< .008) associated. Students who completed their vocational programs were likely to have had higher high school grades than their counterparts who dropped out, or remained in school an abnormal amount of time. High school grades were not significantly associated with persistence.

GRAMMAR ERRORS BY ETHNICITY AND PROGRAM COMPLETION

The "grammar error" score is a measure designed to tap the students' "internalization" of standard English. We use the term "internalization" because the student was not aware that his or her grammatical skill was being evaluated. The score, a byproduct of the ego development protocol was also scored for three classes of grammatical errors:

1. Stub-completion errors in which the students' completion does not fit the sentence grammatically.
2. Within-completion errors in which the subject makes grammatical errors within the completion.
3. Misspelling in the completion.

Error scores could not exceed three for each sentence stub. Twelve sentence stubs were given, so total possible errors was 36. Table 13 shows that both ethnicity and program completion were significantly related to grammar errors. Students of other ethnicities made the most errors, followed by blacks, and whites who made the least (p< .001).

We found students' grammar error scores were related to their socioeconomic and educational statuses. Students from low socioeconomic backgrounds made more errors than those of middle and high socioeconomic status (p< .018). Similarly, students who had dropped out of high school made significantly more (p< .001) grammar errors than graduates of general, vocational, academic and four-year college programs in that order.

TABLE 13

GRAMMAR ERROR SCORES BY ETHNICITY AND PROGRAM COMPLETION

	Black	White	Other	Weighted Means
Completed Program	3.25 (85)	2.45 (499)	3.25 (134)	2.69 (718)
Did not Complete Program	3.01 (100)	2.54 (243)	3.31 (85)	2.80 (428)
Still in School	3.17 (24)	2.76 (58)	3.33 (33)	3.01 (115)
Weighted Means	3.13 (209)	2.50 (800)	3.28 (252)	

Key: 1 = 0 errors
2 = 1 error
3 = 2 errors
4 = 3-20 errors

Table 13 shows students' grammar error scores were significantly related ($p< .013$) to whether or not they completed training. Those who made the least errors were most likely to complete their programs, followed by the non-completers and those who were still in school in that order. A closer examination of Table 10 shows this pattern stemmed mainly from white students and to a lesser degree from students of other ethnicities. Blacks reversed the pattern, with those who made the least grammar errors dropping out of school. Grammar error scores and persistence were not related.

HIGHEST LEVEL OF EDUCATION PLANNED BY ETHNICITY AND PROGRAM COMPLETION

We asked students how much education they planned to get in their lifetime. Table 14 shows their responses were significantly related to their ethnic background ($p< .001$). Whites, who in Table 8 we showed had the highest educational status, expected the least education in the future. On the other hand, blacks who had the lowest educational status, expected the most in the future--on the average, almost a bachelor's degree.

Most students' expectations were unrealistic in view of their demonstrated ability, as Table 14 shows the non-completers and those still in school expected significantly more ($p< .001$).

Table 15 confirms the pattern showing students' persistence significantly ($p< .002$) but inversely related to their educational plans. Those who persist the average time in school have the lowest educational expectations, which fall between finishing the program they are in and finishing a bachelor's degree. Those who linger in school the longest expect almost a bachelor's degree on the average.

When we interviewed these students 28 months later, we again asked them about their educational expectations. We found some evidence that time spent in school tended to "cool out" students, a term coined by Clark (1960) which

TABLE 14

HIGHEST LEVEL OF EDUCATION PLANNED BY ETHNICITY AND PROGRAM COMPLETION

	Black	White	Other	Weighted Means
Completed Program	1.85 (80)	1.53 (475)	1.78 (126)	1.61 (681)
Did not Complete Program	2.02 (99)	1.66 (229)	1.62 (87)	1.74 (409)
Still in School	2.13 (23)	1.86 (55)	2.00 (30)	1.96 (108)
Weighted Means	1.97 (202)	1.60 (759)	1.75 (237)	

Key: 1 = Finish program I am in
2 = BA degree
3 = Graduate degree

TABLE 15

HIGHEST LEVEL OF EDUCATION PLANNED BY ETHNICITY AND PROGRAM PERSISTENCE

	Black	White	Other	Weighted Means
Shortest Persistence	1.99 (73)	1.66 (200)	1.66 (62)	1.73 (335)
Average Persistence	1.94 (48)	1.52 (304)	1.62 (76)	1.59 (428)
Longest Persistence	1.93 (56)	1.57 (193)	1.88 (64)	1.69 (313)
Still in School	2.13 (23)	1.86 (55)	2.00 (30)	1.96 (108)
Weighted Means	1.98 (200)	1.59 (752)	1.75 (232)	

Key: 1 = Finish program I am in
2 = BA degree
3 = Graduate degree

means to reduce students' expectations by letting them down little by little. Though we found no difference in changes in expectations for public and proprietary students, we found older students, who we showed in Table 7 had been in school the longest, reduced their expectations most ($p < .007$). We also found that those students with the most unrealistic expectations lowered them the most over time ($p < .015$). Finally, we found that the "cooling out" process extended beyond the school to the work place. Men in upper level training programs (accounting, programming and electronic technician training) who as we will show in Chapter 4 experienced the greatest disparity between the jobs for which they trained and the ones they got, lowered their educational expectations significantly more than the graduates of the lower status programs ($p < .031$) whose jobs closely matched their training.

ADEQUACY OF TRAINING BY ETHNICITY AND PROGRAM COMPLETION

When we first interviewed students in the fall of 1973, we asked them to rate the adequacy of training in their school. Table 16 shows that whites rated their programs significantly ($p < .001$) higher than blacks and students of other ethnicities. We wanted to know if students who had rated their programs as being adequate tended to complete their programs more than those who rated them as less adequate. Table 16 shows a significant ($p < .002$) difference with completers rating their programs more adequate than non-completers and those still in school. Similarly we found those students who persisted the average amount of time rated their programs significantly ($p < .004$) more adequate than those who left school in their first third of the program.

CHANGES IN ADEQUACY OF TRAINING BY ETHNICITY AND PROGRAM PERSISTENCE

When we interviewed students the last time, we asked them to again rate the adequacy of their training. We then subtracted their 1973 adequacy of

TABLE 16

STUDENTS' VIEWS ON THE ADEQUACY OF TRAINING BY ETHNICITY AND PROGRAM COMPLETION

	Black	White	Other	Weighted Means
Completed Program	2.11 (83)	1.87 (495)	2.28 (129)	1.97 (707)
Did not Complete Program	2.43 (97)	2.04 (240)	2.31 (86)	2.19 (423)
Still in School	2.42 (24)	2.07 (58)	2.25 (28)	2.19 (110)
Weighted Means	2.30 (204)	1.94 (793)	2.28 (243)	

Key:
1 = Best
2 =
3 =
4 = Worst

TABLE 17

CHANGES IN ADEQUACY OF TRAINING VIEW FROM OCTOBER 73--LAST INTERVIEW BY ETHNICITY AND PROGRAM PERSISTENCE

	Black	White	Other	Weighted Means
Shortest Persistence	.17 (71)	.38 (208)	.08 (65)	.28 (344)
Average Persistence	.00 (48)	.32 (318)	.04 (79)	.24 (445)
Longest Persistence	.00 (58)	.31 (200)	-.03 (66)	.19 (324)
Still in School	-.29 (24)	.17 (58)	-.14 (28)	-.01 (110)
Weighted Means	.02 (201)	.32 (784)	.01 (238)	

Key:

-1 = Rating decreases
0 = No change with time
1 = Rating increases with time (positive)

training score from the current one, and created a "change in adequacy of training" variable. The key in Table 17 shows that negative numbers indicated a rating that decreased over time, while positive numbers indicate an increase in students' views of the adequacy of their training.

Table 17 shows that across all levels of persistence, all ethnic groups increased their ratings of their training, though in varying degrees. Whites' ratings increased significantly more than blacks' and students of other ethnicities ($p< .001$). Table 17 also shows that changes in students' views about the adequacy of their training is clearly related to how long students remain in school. A t-test between the mean change in rating scores shows the ratings of those who dropped out increased the most, despite the fact they did not graduate ($p< .01$). Rating of blacks and students of other ethnicities who lingered in school decreased the most over time.

DESTINATIONS OF NON-COMPLETERS

Conventional wisdom has it that high drop-out rates from postsecondary vocational programs are largely due to students leaving early for good jobs or transferring to four-year colleges. Findings from this study dispel both points of view. Only 11 percent of the public and eight percent of the proprietary dropouts said they left early mainly for a good job. Further, while we found 10 percent of the public and 13 percent of the proprietary graduates enrolled in four year colleges, only 7 percent of the public and 5 percent of the proprietaries listed it as the most important reason for dropping out.

SUMMARY OF FINDINGS

We confirmed our central hypothesis that proprietary schools do exhibit a superior holding power compared with public schools. On the average, a proprietary student's chances of graduating within two and one third years are 1½ times better than a public student's. We attribute this finding to the fact that students pay substantial fees to attend proprietary schools while their public counterparts attend similar programs for little or no money. We also think proprietary school students complete their training far more often than public students because proprietary school programs appear better attuned to changing student and labor market needs.

More important, however, we found that students with the fewest resources behind them were less likely to complete their programs than their more advantaged classmates. A full 40 percent of the less advantaged public students dropped out while 14 percent of the least advantaged still lingered on. These less-advantaged students in both types of schools had lower socioeconomic and educational statuses were more likely from ethnic minorities, were older, had lower ego development, higher needs to be socially pragmatic, made lower grades in high school, and made more grammar errors in their current use of English. Sadly, these students had unrealistically high educational expectations, many expecting to achieve at least a bachelor's degree despite their inability to complete an even less-advanced vocational program. We found evidence that these students were often "cooled out" as they aged and experienced the harsh realities of school and work thereby bringing their overly ambitious goals in line with their limited successes.

Finally, we reported that contrary to the conventional wisdom, only small percentages of students dropped out to take jobs or transfer to four-year colleges.

We shall now turn to the question of difference in completing a program of study, or persisting just the right amount of time makes in the kind of jobs students get after leaving school.

CHAPTER 4

RELATIONSHIP OF COMPLETION AND PERSISTENCE TO TYPE OF FIRST JOB

We next analyzed the relationship between students' persistence and program completion and their first jobs after leaving school. Students' jobs were classified according to the U. S. Census Occupational Code. This classification which includes hundreds of jobs implies a hierarchy. Jobs which fall into the top categories (professional, technical, managerial, administrative and sales) generally allow the occupants greater decision-making and responsibility than those at the bottom. Those jobs in the top category generally also command greater salaries and thereby are accorded higher social status than lower level jobs (Siegel, 1971). Jobs which fall into those categories include doctors, lawyers, Supreme Court Judges, and in our study, accountants, programmers and electronic technicians.

Clerical workers occupy the middle portion of the U. S. Occupational Code classification. Many jobs fall into this category which include billing machine operators, typists, keypunch operators, file clerks, and in our study, secretaries.

The bottom portion of the U. S. Occupational Code is comprised of "service" occupations. The service classification includes janitors, bartenders and nurses aides, and in our study, dental assistants and cosmetologists. People employed in service occupations generally earn the least and have the lowest social status.

Chart 2 shows the distributions of jobs according to the U. S. Census Occupational Code. Each job in the classification is assigned a 3-digit number, allowing it to be pinpointed. Under the U.S. Census Classification, Accountants have been assigned the number 001; Programmers 003; Electronic Technicians 173; Secretaries 371, 372, and 373; Dental Assistants 921; and Cosmetologists, 944.

CHART 2

EMPLOYMENT BY U.S. CENSUS OCCUPATIONAL GROUP (1978) (IN THOUSANDS)

U.S. Census Classification	Occupational Group	Total Employed 1978
001-195	Professional and Technical	14,245
201-245	Managers and Administrators (Except Farm)	10,105
260-285	Sales Workers	5,951
301-395	Clerical and Kindred Workers	16,904
401-575	Craftsmen and Kindred Workers	12,386
601-695	Operatives (Except Transport)	10,875
701-715	Transport Equipment Operatives	3,541
740-785	Nonfarm Laborers	4,729
801-824	Farmworkers	2,798
901-984	Service Workers	12,839
Total		94,373

In this chapter we analyzed the data using two non-parametric tests, the Mann-Whitney U Test, and the Kruskal Wallace test. A parameter is simply a statistical property of a body of data. Means and medians are parameters for example. Statistical tests like t-tests which rely on means and medians are called parametric tests and they rely on certain assumptions that are not always true. For example, t-tests assume that both samples are from normal distributions, and have the same variance. Non-parametric tests avoid these assumptions, and are now being used more widely in survey research. The Mann-Whitney U Test is designed to see if samples are from the same population. It is particularly useful when data can be organized into two independent samples. We used the

Mann-Whitney U Test to test differences in job placement between completers and non-completers. On the other hand when dealing with more than two sets of data as we did with the persistence variable, we used the Kruskal Wallace test which is an extension of the Mann-Whitney U Test.

In all eight occupational groups (male and female accountants and programmers; male electronic technicians; and female secretaries, dental assistants, and cosmetologists) we analyzed, there were no significant differences in placements for public and proprietary students, thereby allowing us to combine them for the following analysis.

The following analysis is designed to answer the question: what is the relationship of completing a vocational program or persisting a certain amount of time and the students' first job after leaving school?

MALE ACCOUNTING STUDENTS

Table 18 shows the distribution of male accounting students by type of first job and program completion. The first job category is a combination of professional, technical, administrative, managerial and sales occupations from 001 to 299. Although accountants are designated by the U. S. Census Occupational Code 001, and it falls within the professional, and technical categories, we expanded the category to liberally include other occupations of similar pay scales and social standing that might be related. There were no differences in placement for public or proprietary students, enabling us to combine them. Table 18 shows that of the 28 male students who graduated from accounting programs, 32 percent got jobs in the first category (although only 10 percent got jobs as accountants), 43 percent got jobs in the clerical category, and 25 percent got jobs in all other, lower level categories.

Note: readers who want more information on non-parametric tests should read W. J. Conover, Practical Non Parametric Statistics, John Wiley and Sons, New York, 1971.

TABLE 18

DISTRIBUTION OF MALE ACCOUNTING STUDENTS FIRST JOB AND PROGRAM COMPLETION

	Completed Program	Did not Complete Program
Professional, Technical, Managerial, Sales (US Census Code 1-299)	32% (9)	26% (11)
Clerical (300-399)	43% (12)	33% (14)
Others (400-998)	25% (7)	40% (17)
	100% (28)	100% (42)

TABLE 19

DISTRIBUTION OF MALE ACCOUNTING STUDENTS BY FIRST JOB AND PROGRAM PERSISTENCE

	Shortest Persistence	Average Persistence	Longest Persistence
Professional, Technical, Managerial, Sales (US Census Code 1-299)	18% (4)	27% (7)	41% (9)
Clerical (300-399)	32% (7)	42% (11)	36% (8)
Other (400-998)	50% (11)	31% (8)	23% (5)
	100% (22)	100% (26)	100% (22)

The comparison of interest is between the completers and those who did not complete their programs. Table 18 shows that of the non-completers, 26 percent got jobs in the top category, 33 percent in the clerical category, and 40 percent in the other occupations. There were no significant differences between the jobs held by those who completed school compared with those who did not. In other words, a student was equally as likely to become an accountant (or have a job of a similar pay rate and social standing) if he did not complete school as if he did.

Table 19 substitutes persistence for completion and shows the distribution of male accounting students by their first job and their persistence in the program. Though there was a trend for longer persisters to get upper level jobs it was not significant.

FEMALE ACCOUNTING STUDENTS

Table 20, which uses the same classification as 18 and 19 shows that no women who studied to become accountants got those jobs, or jobs of a similar pay scale and social standing. Most important, dropouts got substantially the same jobs as graduates.

Ninety-two percent of the completers got clerical jobs such as bookkeepers, billing clerks and file clerks compared with 76 percent of the non-completers. Eight percent of the completers got lower level jobs in the "other" category which included dressmakers and assemblers compared with 24 percent of the non-completers. Although it appears that women who completed their accounting training were more likely to get clerical jobs (92 percent) than non-completers (76 percent), the difference was not statistically significant.

TABLE 20

DISTRIBUTION OF FEMALE ACCOUNTING STUDENTS BY FIRST JOB AND PROGRAM COMPLETION

	Completed Program	Did not Complete Program
Professional, Technical, Managerial, Sales (US Census Code 1-299)	0% (0)	0% (0)
Clerical (300-399)	92% (35)	76% (39)
Other (400-998)	8% (3)	24% (12)
	100% (38)	100% (51)

TABLE 21

DISTRIBUTION OF FEMALE ACCOUNTING STUDENTS BY FIRST JOB AND PROGRAM PERSISTENCE

	Shortest Persistence	Average Persistence	Longest Persistence
Professional, Technical Managerial, Sales (US Census Code 1-299)	0% (0)	0% (0)	0% (0)
Clerical (300-399)	87% (26)	80% (24)	83% (24)
Other (400-998)	13% (4)	20% (6)	17% (5)
	100% (30)	100% (30)	100% (29)

Table 21 shows that the length of time women persisted in their accounting programs had no relationship to the kind of jobs they got. Again none got the jobs for which they were trained or jobs of a similar pay scale and social standing. As we pointed out in Table 20 most became clerks and the rest had jobs that were unrelated to accounting, and the length of time women spent in school was unrelated to the kind of jobs they got after leaving school.

MALE PROGRAMMING STUDENTS

Table 22 shows that 27 percent of the completers and 19 percent of the non-completers got jobs in the professional, technical, managerial and sales category. Within that group of sixteen men, only eight, or 11 percent of the men who studied to become programmers actually got those jobs. The others in the first category, were employed in a variety of occupations not necessarily related to programming. As Table 22 shows, the majority of male programming students were employed in jobs in the clerical classification. Almost half were employed as computer operators, and others were employed as file and stock clerks. Twelve percent of the completers and 30 percent of the non-completers took lower-level unrelated jobs. Though there appear to differences between completers' and non-completers' first jobs, the differences were not statistically significant. In other words, a student's first job was unrelated to whether or not he completed his training.

Table 23 analyzes the data in the same way, substituting persistence for completion. There were no significant differences between the types of first jobs of those who persisted the shortest, average or longest times.

TABLE 22

DISTRIBUTION OF MALE PROGRAMMING STUDENTS BY FIRST JOB AND PROGRAM COMPLETION

	Completed Program	Did not Complete Program
Professional, Technical, Managerial, Sales (US Census 1-299)	27% (11)	19% (5)
Clerical (300-399)	61% (25)	51% (14)
Other (400-998)	12% (5)	30% (8)
	100% (41)	100% (27)

TABLE 23

DISTRIBUTION OF MALE PROGRAMMING STUDENTS BY FIRST JOB AND PROGRAM PERSISTENCE

	Shortest Persistence	Average Persistence	Longest Persistence
Professional, Technical, Managerial, Sales (US Census 1-299)	17% (4)	32% (7)	21% (5)
Clerical (300-299)	52% (12)	59% (13)	58% (14)
Other (400-998)	31% (7)	9% (2)	21% (5)
	100% (23)	100% (22)	100% (24)

TABLE 24

DISTRIBUTION OF FEMALE PROGRAMMING STUDENTS BY FIRST JOB AND PROGRAM COMPLETION

	Completed Program	Did not Complete Program
Professional, Technical, Managerial, Sales (US Census Code 1-299)	0% (0)	0% (0)
Clerical (300-399)	91% (20)	79% (19)
Other (400-998)	9% (2)	21% (5)
	100% (22)	100% (24)

TABLE 25

DISTRIBUTION OF FEMALE PROGRAMMING STUDENTS BY FIRST JOB AND PROGRAM PERSISTENCE

	Shortest Persistence	Average Persistence	Longest Persistence
Professional, Technical, Managerial, Sales (US Census Code 1-299)	0% (0)	0% (0)	0% (0)
Clerical (300-399)	88% (15)	83% (15)	82% (9)
Other (400-998)	12% (2)	17% (3)	18% (2)
	100% (17)	100% (18)	100% (11)

FEMALE PROGRAMMING STUDENTS' FIRST JOBS BY COMPLETION AND PERSISTENCE

Table 24 shows that none of the women who trained to become programmers got the jobs for which they were trained, or jobs of approximate pay scale and social standing. The majority of women, trained to become programmers went to work in clerical jobs (91 percent of the completers and 79 percent of the non-completers). There were no significant differences in placement between those who completed their training compared with those who did not complete their training.

Table 25 substitutes persistence for completion, and shows the cross-tabulation of types of first jobs for those who persisted the shortest, average and longest times in school. There were no significant differences in the kind of jobs women got compared with their persistence in school. No women got the jobs for which they were trained, or jobs of a comparable pay scale, and women's chances to become clerks were the same no matter how long they went to school.

MALE ELECTRONIC TECHNICIAN STUDENTS

For this analysis, we split the "other" job category into "high crafts" (U. S. Census Occupational Code designation of 400-499) and "low crafts and others" (with designations from 500-998).

Only 14 percent actually got jobs as electronic technicians, but by expanding the electronic technicians category by adding other jobs of similar pay and status, we found 29 percent of the students who completed their programs got the jobs for which they were trained, or jobs of a similar pay scale, compared with 35 percent who did not complete school (see Table 26). Table 26 also shows that nine percent of the completers became clerks, compared with 18 percent of the non-completers.

TABLE 26

DISTRIBUTION OF ELECTRONIC TECHNICIAN STUDENTS BY FIRST JOB AND PROGRAM COMPLETION

	Completed Program	Did not Complete Program
Professional, Technical, Managerial, Sales (US Census Code 1-299)	29% (16)	35% (17)
Clerical (300-399)	9% (5)	18% (9)
High Crafts (400-499)	35% (19)	12% (6)
Low Crafts and Others (500-998)	27% (15)	35% (17)
	100% (55)	100% (49)

TABLE 27

DISTRIBUTION OF ELECTRONIC TECHNICIAN STUDENTS BY FIRST JOB AND PERSISTENCE

	Shortest Persistence	Average Persistence	Longest Persistence
Professional, Technical, Managerial, Sales (US Census Code 1-299)	31% (11)	41% (17)	19% (5)
Clerical (300-399)	17% (6)	15% (6)	7% (2)
High Crafts (400-499)	23% (8)	27% (11)	22% (6)
Low Crafts and Others (500-998)	29% (10)	17% (7)	52% (14)
	100% (35)	100% (41)	100% (27)

Thirty five percent of the completers took "high craft jobs" like road machine operators and office machine mechanics, compared with 12 percent of the non-completers. Twenty-seven percent of the completers took low craft and other jobs that included telephone repairmen and sheetmetal workers compared with 35 percent of the non-completers.

But most important there were no significant differences between the placement success of the completers compared with the non-completers. The jobs electronic technician students took were equally available to dropouts and graduates alike.

The data in Table 27 followed a similar pattern, and there were no significant differences in the placement success of students who persisted the shortest, average or longest amounts of time.

FEMALE SECRETARIAL STUDENTS

Table 28 shows the jobs secretarial students took either upon graduating from school, or leaving early. The jobs for which students trained, secretarial jobs, are designated as 370, 371, and 372 in the U. S. Census Occupational Classification. Though those jobs are within the larger "clerical" classification, we have showed them separately.

Table 28 shows that graduates enjoyed substantially better placement results than those who dropped out. For example, nearly half (47 percent) of the completers got jobs as secretaries, but only 20 percent of the non-completers became secretaries. Conversely, 56 percent of the non-completers took clerical jobs, other than secretaries, but only 40 percent of the secretarial program completers took general clerical jobs. In other words, completers had a significantly higher probability ($p < .001$) of finding secretarial jobs than non-completers.

TABLE 28

DISTRIBUTION OF SECRETARIAL STUDENTS BY FIRST JOB AND PROGRAM COMPLETION

	Completed Program	Did not Complete Program
Professional, Technical, Managerial, Sales (US Census Code 1-299)	6% (10)	10% (9)
Secretary (370, 371, 372)	47% (85)	20% (19)
Clerical (Excluding Secretary) (300-369, 373-399)	40% (74)	56% (53)
Other (400-998)	7% (14)	14% (13)
	100% (183)	100% (94)

TABLE 29

DISTRIBUTION OF SECRETARIAL STUDENTS BY FIRST JOB AND PERSISTENCE

	Shortest Persistence	Average Persistence	Longest Persistence
Profession, Technical, Managerial, Sales (US Census Code 1-299)	7% (6)	4% (4)	11% (8)
Secretary (370, 371, 372)	23% (22)	52% (60)	32% (23)
Clerical (Excluding Secretary) (300-369, 373-399)	54% (51)	40% (46)	48% (34)
Other (400-998)	16% (15)	4% (5)	9% (6)
	100% (94)	100% (115)	100% (71)

Similarly, Table 29 shows that students who persist the average amount of time find secretarial jobs significantly ($p < .001$) more often than students in the other categories. Fifty-two percent of those who persisted the average amount of time found secretarial jobs compared with 32 percent of those who took the longest to finish. Those who dropped out in the first third of their programs experienced the lowest placement rate as secretaries--23 percent. Dropping out of a secretarial program in both public and proprietary schools appears to substantially diminish students' chances of getting the jobs for which they trained.

FEMALE DENTAL ASSISTANTS

Table 30 shows a marked difference between the jobs dental assisting graduates got compared with those who dropped out ($p < .001$). Over 70 percent of those who completed school got the job for which they trained, compared with 21 percent of the dropouts.

Table 31 shows that persistence was also related to job placement for dental assistants. Women who persisted the average amount of time were most likely ($p < .016$) to get the jobs for which they trained. Their chances were 73 out of 100 compared with 55 and 53 out of 100 respectively for those who took the longest to complete and those who left school early.

FEMALE COSMETOLOGY STUDENTS

Table 32 shows that the vast majority, 85 percent, of students who completed their training got the jobs for which they were trained compared with only 10 percent of the non-completers. The difference was statistically significant ($p < .001$).

When we analyzed the relationship of persistence to students' first jobs, we found a reversal from the findings we reported with secretaries and

TABLE 30

DISTRIBUTION OF DENTAL ASSISTING STUDENTS BY FIRST JOB AND PROGRAM COMPLETION

	Completed Program	Did not Complete Program
Dental Assistant (US Census Code 921)	71% (130)	21% (7)
Others (All other US Census Codes)	29% (52)	79% (26)
	100% (182)	100% (33)

TABLE 31

DISTRIBUTION OF DENTAL ASSISTING STUDENTS BY FIRST JOB AND PROGRAM PERSISTENCE

	Shortest Persistence	Average Persistence	Longest Persistence
Dental Assistant (US Census Code 921)	53% (31)	73% (83)	55% (23)
Others (All other US Census Codes)	47% (27)	27% (31)	45% (19)
	100% (58)	100% (114)	100% (42)

TABLE 32

DISTRIBUTION OF COSMETOLOGY STUDENTS BY FIRST JOB AND PROGRAM COMPLETION

	Completed Program	Did not Complete Program
Cosmetology (US Census Code 944)	85% (47)	10% (3)
Other (All other US Census Codes)	15% (8)	90% (26)
	100% (55)	100% (29)

dental assistants. In those cases, the women who persisted the average amount of time were most likely to get the jobs for which they trained. But, with cosmetologists persistence was not significantly associated with the type of first job. This finding stems from the fact that cosmetologists are licensed in each state studied. One of the conditions for licensing is finishing a fixed number of hours in an approved course, thereby making completion a more powerful variable in explaining placement than persistence.

SUMMARY OF FINDINGS

Overall, we found that students who completed their programs felt that their vocational schooling was significantly more important ($p < .002$) in getting their first job than non-completers. Younger students also felt their vocational schooling was more important in getting their job than older students ($p < .001$), and students from proprietary schools similarly felt that their schooling was more important in getting their jobs than public school students ($p < .001$). No doubt proprietary school students felt their schooling was more important in finding their first jobs because they paid for it, thereby increasing its perceived value to them. We also think that proprietary school students felt more strongly about the value of their schooling because of the schools' more intense emphasis on job-related training making the connection between schooling and successful job placement faster and more apparent to proprietary students than public school students.

However, beneath this surface, striking differences emerged. When we asked students how important they felt school was in getting their job, both men and women who trained for the upper level jobs, accounting, programming and electronic technician training, felt their training was significantly ($p < .001$) less important in getting their first jobs than women who trained for lower-level occupations (see Table 33).

TABLE 33

STUDENTS RATINGS OF THE IMPORTANCE OF SCHOOLING IN GETTING THEIR FIRST JOB

	Males Who Studied Accounting, Programming and Electronic Technician Training	Females Who Studied Accounting and Programming	Females Who Studied Secretarial, Dental Assisting and Cosmetology
Average Score	3.63 (249)	3.58 (138)	2.78 (588)

Key: 1 = Most important
2
3
4
5 = Least important

No doubt this finding accurately reflects the unimportance of this type of schooling for those jobs. No women who studied for those upper level jobs got them--they all took lower-level, lower-paying jobs. And, less than 14 percent of the men who studied for those upper level jobs got them. Even if we include jobs of a similar pay scale and social standing, though they may have been totally unrelated to the training, the placement rate for men did not exceed 33 percent. The low placement rates for these upper level jobs substantially match the findings from our early follow-up study of graduates of these programs (Wilms, 1975), giving us added confidence in these results.

But, the most important finding was that upper level students' first jobs were in no way influenced by their dropping out or graduating. It simply made no difference. Some men and women who studied for upper level jobs took what could be termed "related" lower level jobs. For example, 14 women who studied to become accountants took jobs as bookkeepers, and 19 men who studied to become computer programmers took jobs as operators. One might expect these men and women who took lower-level, lower-paying, but related jobs, to move up into the jobs for which they were trained over time. However our 1975 study, which reconstructed graduates' job histories for up to 3½ years found there was virtually no such mobility. We expect those findings could be generalized to this sample as well.

However, for students who studied for lower level jobs, persistence and completion were positively related to the type of first jobs. Women who studied to become secretaries, dental assistants, and cosmetologists fared better if they completed their occupational programs, compared to those who did not. Placement rates for completers ranged from 47 percent for secretaries to 71 and 85 percent respectively for dental assistants and cosmetologists. Correspondingly, non-completers enjoyed far less success. Only 20 percent of the secretarial non-completers, 21 percent of the dental assistants and

10 percent of the cosmetologists got the jobs for which they were trained. Compared with the men and women who trained for upper level jobs, these women were more positive about the importance of training in getting their jobs (see Table 33).

We found no differences in unemployment rates between respondents who had persisted an average amount of time or graduated and those who dropped out.

We shall now turn to an analysis of students' earnings on their first jobs, and subsequent changes in earnings, to determine the relationship between students' characteristics, and characteristics of their schooling to their later incomes.

CHAPTER 5

RELATIONSHIP OF BACKGROUND AND SCHOOL VARIABLES TO FIRST EARNINGS ON FIRST JOB AND CHANGES IN EARNING

The analysis so far has shown that students from more advantaged backgrounds tend to persist in vocational programs an average amount of time and graduate significantly more often than less advantaged students who are more prone to drop out or linger in school for abnormally long times. We also confirmed our 1975 findings that students who trained for upper level jobs (accountants, programmers and electronic technicians) experienced low placement rates in the jobs for which they were trained. Most important, we found that students who studied for these upper level jobs experienced the same placement rates no matter how long they persisted, or whether or not they completed their programs.

However, this was not the case for students who studied for lower level jobs. Women who studied to become secretaries, dental assistants and cosmetologists got the jobs for which they were trained far more often if they persisted an average amount of time, or completed their programs.

From these data we begin to see the pattern that students' background characteristics are related to their ability to complete their programs and in some cases, completing their programs is related to their chances of getting the job for which they trained. The following analysis is a first step in explaining how students' background characteristics and schooling are related to their first earnings on their first jobs, and subsequent changes in earnings.

BACKGROUND CHARACTERISTICS

Socioeconomic Status

As the reader can see from Table 34, we used a modified form of the U. S. Census Occupational Classification as one of the independent variables. Because sex is so potently related to job placement and earnings, it was necessary to control for sex in creating this variable. We combined men, most of whom trained for upper level jobs though most took clerical jobs. after leaving school, into one category, including Professional, Managerial, Sales and Clerical jobs (U. S. Census Codes 001-399). We deleted 94 cases that fell into "other occupations" below the Clerical level.

We categorized female secretaries separately according to the U. S. Census Occupational Codes, 370, 371, and 372, as the second level of the variable, and formed the third level of the independent variable from other females who took clerical jobs, excluding secretaries (U. S. Census Codes 300-369 and 373-399). Women who became dental assistants (U. S. Census Code 921) and cosmetologists (U. S. Census Code 944) made up the last two categories in that order.

This grouping made intuitive as well as empirical sense. As Table 34 shows, this occupational classification was significantly associated with "first earnings on first job" in the way one would expect ($p < .001$). Men in the top job category earned the most on their first jobs followed by female secretaries, female clerks, female dental assistants, and female cosmetologists.

Table 34 also shows that students' socioeconomic status was not significantly related to their first earnings, though there was a non-significant trend for students of medium and high socioeconomic status to earn more than students of low socioeconomic status.

TABLE 34

FIRST EARNINGS ON FIRST JOB BY OCCUPATION, SEX AND SOCIOECONOMIC STATUS

(controlling for age, region, inflation and hours/week)

	Low	Medium	High	
Professional, Managerial, Sales, and Clerical (Males) (US Census Codes 1-399)	4.86 (44)	4.63 (44)	4.72 (32)	4.73 (120)
Secretaries (Females) (370, 371, 372)	4.02 (21)	4.58 (29)	5.10 (57)	4.57 (107)
Clerks (Females) (300-369, 373-399)	3.78 (91)	3.99 (80)	4.19 (83)	3.99 (254)
Dental Assistants (Females) (921)	4.17 (22)	3.93 (54)	3.76 (53)	3.95 (129)
Cosmetologists (Females) (944)	1.71 (19)	2.84 (12)	2.20 (11)	2.25 (42)
	3.71 (197)	4.00 (219)	3.99 (236)	

1 = $50 or less per week
2 = 51 to 75 per week
3 = 76 to 100 per week
4 = 101 to 125 per week
5 = 126 to 150 per week
6 = 151 to 175 per week
7 = 176 to 200 per week
8 = 201 to 250 per week
9 = 251 to 300 per week
10 = 301 or more per week

Table 35 shows the same independent variables, "occupation," "sex," and "socioeconomic status," but a new independent variable has replaced "first earnings on first job." The new independent variable, "change in earnings" was created by subtracting respondents' first earnings on their first job, from their current earnings (current as of the time of the last interview) on their current or last job. In each table where we present "change in earnings" we have controlled for the effects of changes in the hours per week worked, inflation, job tenure, geographic region, and age, except in Table 36 where the independent variable is "age."

Table 35 shows the respondents' occupation is still significantly associated with change in earnings ($p < .025$), though the strength of the relationship has weakened. It has weakened because as time goes on the differences in earnings between occupational groups becomes less distinct. While males in the first occupational classification gained the most in earnings, female secretaries, dental assistants and cosmetologists all gained in salary nearly equally. Also, the change in earnings is no longer associated with the occupational classification in the same descending order, as the female clerks gained more than the female secretaries in the category above them, thereby closing the gap in income.

Respondents' socioeconomic status, which was not significantly related to first earnings, comes into play more fully as time passes. It is now significantly ($p < .024$) related to respondents' change in income with those from the lowest socioeconomic level, who initially earned the least, gaining the most in earnings. The findings suggest that the labor market tends to even out differences in earnings over time across differences in individuals' characteristics, particularly for lower-level, female occupations.

Note: in cases where cell frequencies were less than 10, we deleted them. As a result, some marginal means and frequencies will appear not to conform.

TABLE 35

CHANGE IN WEEKLY EARNINGS BY OCCUPATION, SEX AND SOCIOECONOMIC STATUS (IN DOLLARS)
(controlling for change in hours/week, inflation, job tenure, age and region)

	Low	Medium	High	
Professional, Managerial, Sales, and Clerical (Males) (US Census Codes 1-399)	1.44 (42)	1.08 (44)	.69 (31)	1.07 (117)
Secretaries (Females) (370, 371, 372)	1.01 (20)	.67 (29)	.38 (57)	.69 (106)
Clerks (Females) (300-369, 373-399)	.86 (90)	.93 (79)	.71 (82)	.83 (251)
Dental Assistants (Females) (921)	.78 (22)	.67 (53)	.60 (53)	.68 (128)
Cosmetologists (Females) (944)	.52 (19)	.61 (11)	.81 (11)	.65 (41)
	.92 (193)	.79 (216)	.64 (234)	

TABLE 36

FIRST EARNINGS ON FIRST JOB BY OCCUPATION, SEX AND AGE
(controlling for region, inflation and hours/week)

	17 and Under	18-20	21-23	24-26	27+	
Professional, Managerial, Sales, and Clerical (Males) (US Census Codes 1-399)	4.38 (15)	4.46 (55)	4.29 (23)	5.16 (23)	5.26 (31)	4.71 (147)
Secretaries (Females) (370, 371, 372)	5.17 (17)	4.45 (69)	4.85 (16)	*	*	4.49 (115)
Clerks (Females) (300-369, 373-399)	3.96 (43)	3.78 (162)	3.72 (33)	4.29 (20)	4.07 (34)	3.96 (292)
Dental Assistants (Females) (921)	3.68 (23)	3.59 (96)	4.20 (11)	*	*	4.30 (140)
Cosmetologists (Females) (944)	*	1.95 (14)	2.65 (13)	*	2.07 (17)	2.24 (52)
	3.80 (103)	3.65 (396)	3.94 (96)	4.38 (57)	3.93 (94)	

*Deleted due to small cell size

1 = $50 or less per week
2 = 51 to 75 per week
3 = 76 to 100 per week
4 = 101 to 125 per week
5 = 126 to 150 per week
6 = 151 to 175 per week
7 = 176 to 200 per week
8 = 201 to 250 per week
9 = 251 to 300 per week
10 = 301 or more per week

Age

Table 36 shows that students' ages were significantly ($p < .029$) related to their first earnings. In general, older students earned more. This finding is somewhat mixed because female secretaries reversed the pattern, with the youngest women earning the most. Table 37 shows that age was also significantly ($p < .002$) related to changes in earnings, with the older respondents gaining the most in salaries. In the earlier discussion of socioeconomic status we pointed out that time appears to smooth over differences in earnings. The same pattern reappears here with those respondents who initially earned less gaining more in earnings over time. For example, Table 36 showed that older women who went to work as secretaries earned less than their younger counterparts. However, as time goes on, the older women gained more in raises or by changing jobs closing the gap in earnings.

Ego Development

Students' ego development was not significantly related to their first earnings as Table 38 shows. However, like socioeconomic status, ego development comes into play more fully, the farther students get from school in the labor market. Table 39 shows ego development becomes significantly related ($p < .005$) with changes in income, in which respondents with higher levels of ego development gained the most in earnings. This finding suggests that those with higher ego development, who tend to take responsibility for their own actions, who can differentiate their feelings and motives, and who have a greater tolerance for ambiguity, are rewarded with increased earnings. It is interesting to note the clarity of this pattern among the cosmetologists, who are in the most client-centered occupation of the five. Possibly these women increase their earnings the most, because they can best anticipate

TABLE 37

CHANGE IN WEEKLY EARNINGS BY OCCUPATION, SEX AND AGE (IN DOLLARS)
(controlling for change in hours/week, inflation, job tenure, and region)

	17 and Under	18-20	21-23	24-26	27 and Over	
Professional, Managerial, Sales, and Clerical (Males) (US Census Codes 1-399)	.54 (15)	.96 (54)	1.21 (23)	1.61 (22)	1.54 (29)	1.17 (143)
Secretaries (Females) (370, 371, 372)	-.02 (17)	.55 (68)	.65 (16)	*	*	.78 (114)
Clerks (Females) (300-369, 373-399)	.80 (43)	.74 (159)	1.01 (32)	.62 (20)	1.44 (34)	.92 (288)
Dental Assistants (Females) (921)	.70 (23)	.55 (95)	.19 (11)	*	*	.49 (139)
Cosmetologists (Females) (944)	*	.47 (13)	1.39 (13)	*	.67 (16)	.61 (50)
	.51 (103)	.65 (389)	.89 (95)	.62 (56)	1.30 (91)	

*Deleted due to small cell size

TABLE 38

FIRST EARNINGS ON FIRST JOB BY OCCUPATION, SEX AND EGO DEVELOPMENT

(controlling for age, region, inflation and hours/week)

	1-2	3-4	5	6-8	
Professional, Managerial, Sales, and Clerical (Males) (US Census Codes 1-399)	4.78 (21)	4.97 (30)	4.48 (65)	5.09 (30)	4.83 (146)
Secretaries (Females) (370, 371, 372)	5.52 (10)	4.50 (18)	4.59 (52)	4.74 (35)	4.84 (115)
Clerks (Females) (300-369, 373-399)	3.99 (27)	4.11 (59)	3.96 (122)	3.81 (81)	3.97 (289)
Dental Assistants (Females) (921)	*	4.10 (33)	4.15 (58)	3.51 (43)	3.62 (140)
Cosmetologists (Females) (944)	*	2.26 (19)	2.53 (15)	*	2.10 (50)
	3.76 (71)	3.99 (159)	3.94 (312)	3.79 (197)	

*Deleted due to small cell size

1 = $50 or less per week
2 = 51 to 75 per week
3 = 76 to 100 per week
4 = 101 to 125 per week
5 = 126 to 150 per week
6 = 151 to 175 per week
7 = 176 to 200 per week
8 = 201 to 250 per week
9 = 251 to 300 per week
10 = 301 or more per week

TABLE 39

CHANGE IN WEEKLY EARNINGS BY OCCUPATION, SEX AND EGO DEVELOPMENT (IN DOLLARS)

(controlling for change in hours/week, inflation, job tenure, age and region)

	1-2	3-4	5	6-8	
Professional, Managerial, Sales, and Clerical (Males) (US Census Codes 1-399)	.13 (21)	.97 (29)	1.48 (63)	1.02 (29)	.90 (142
Secretaries (Females) (370, 371, 372)	.69 (10)	.41 (18)	.56 (51)	.62 (35)	.57 (114)
Clerks (Females) (300-369, 373-399)	.64 (27)	.67 (59)	.84 (120)	1.04 (79)	.80 (285)
Dental Assistants (Females) (921)	*	.74 (33)	.72 (57)	.32 (43)	.53 (139)
Cosmetologists (Females) (944)	*	.40 (18)	1.13 (15)	*	.71 (48)
	.42 (71)	.64 (157)	.95 (306)	.80 (193)	

*Deleted due to small cell size

their clients' needs. The same pattern also appeared among the female clerks and males in the top job category.

Social Pragmatism

Table 40 shows a non-significant trend for students' first earnings to be related to their scores on the "social pragmatism" scale. (See Chapter 3 for a discussion of this scale). While the F-statistic was not strong enough to produce a significant result, a t-test between the mean scores of those who agreed with the statements and those who were undecided, was significant ($p < .05$). This finding suggests that except for the female clerks, men and women who agreed with the statements that "It is important in this job to say the right things," "You cannot speak your mind without fear," and "To be successful you must be able to lie with a straight face," earned the most on their first jobs, independent of their occupation.

Table 41 shows that those who agreed and disagreed with those statements earned about the same increases in salary over time. Overall, the relationship was not significant. However, underneath this surface, there are strong effects operating opposite each other producing significant interaction effect ($p < .02$) between occupation and social pragmatism. The reason for the interaction effect can be seen by examining the changes in earnings for males in the top category and female cosmetologists which operate in opposite directions. As we pointed out earlier, female cosmetologists who increased their earnings the most had the highest ego development levels. We interpreted this to mean that they were perhaps most able to anticipate their clients' needs, provide them with the service they needed thereby increasing their earnings more than women who were less able to interpret their clients' needs. Table 41 strengthens this interpretation as it shows the women cosmetologists who increased their earnings the most were most likely to agree with the statements indicating they placed a high value on conforming to what others

TABLE 40

FIRST EARNINGS ON FIRST JOB BY OCCUPATION, SEX AND SOCIAL PRAGMATISM

(controlling for age, region, inflation and hours/week)

	Agree 1	2	Disagree 3	
Professional, Managerial, Sales, and Clerical (Males) (US Census Codes 1-399)	5.00 (48)	4.49 (52)	4.51 (34)	4.67 (134)
Secretaries (Females) (370, 371, 372)	4.95 (44)	4.51 (36)	4.76 (26)	4.74 (106)
Clerks (Females) (300-369, 373-399)	3.86 (94)	3.80 (106)	4.39 (80)	4.02 (280)
Dental Assistants (Females) (921)	3.99 (49)	3.90 (44)	3.80 (38)	3.90 (131)
Cosmetologists (Females) (944)	2.45 (19)	1.74 (11)	2.28 (20)	2.16 (50)
	4.05 (254)	3.69 (249)	3.95 (198)	

1 = $50 or less per week
2 = 51 to 75 per week
3 = 76 to 100 per week
4 = 101 to 125 per week
5 = 126 to 150 per week
6 = 151 to 175 per week
7 = 176 to 200 per week
8 = 201 to 250 per week
9 = 251 to 300 per week
10 = 301 or more per week

TABLE 41

CHANGE IN WEEKLY EARNINGS BY OCCUPATION, SEX AND SOCIAL PRAGMATISM (IN DOLLARS)

(controlling for change in hours/week, inflation, job tenure, age and region)

	Agree 1	2	Disagree 3	
Professional, Managerial, Sales, and Clerical (Males) (US Census Codes 1-399)	.8253 (46)	1.1404 (51)	1.5729 (34)	1.41 (131)
Secretaries (Females) (370, 371, 372)	.5891 (43)	.6934 (36)	.3985 (26)	.58 (105)
Clerks (Females) (300-369, 373-399)	.8572 (93)	1.0123 (105)	.5326 (78)	.82 (276)
Dental Assistants (Females) (921)	.5689 (49)	.4135 (43)	.6739 (38)	.55 (130)
Cosmetologists (Females) (944)	1.006 (17)	.4944 (11)	.3377 (20)	.50 (48)
	.76 (248)	.86 (246)	.70 (196)	

expect. Women who increased their earnings the least disagreed with those statements.

On the other hand, the pattern was reversed for men in the top job category. As we showed in Table 39, males in professional, managerial, sales and clerical job category, like female cosmetologists who had higher levels of ego development, increased their earnings the most. But, as Table 41 shows, the way a higher-ego male increases his earnings differs from a higher-ego female cosmetologist. As we pointed out, the higher-ego female who increases her earnings as a cosmetologist does so by adopting or cultivating a socially desirable or conforming behavior. But, Table 41 shows the opposite to be the case for males in their job classification. Those who had higher levels of ego development, increased their earnings more, but they also clearly disagreed with statements demanding social conformity and distortion of the truth. We do not interpret this necessarily as a sex difference, as women in less client-centered jobs (clerks, secretaries and dental assistants) did not display the same patterns as cosmetologists. Rather, we think this reversal in pattern maybe a job-related effect. Higher-ego men, who are generally equally able to perceive how to get ahead as higher ego cosmetologists, appear to feel success is tied more to their independent action than socially-pragmatic behavior.

Educational Status

Though we earlier showed respondents of higher educational status completed their programs significantly more often, there was only a non-significant trend for them to earn more on their first jobs. Similarly we found a non-significant trend for time in the labor market to even out initial differences in earnings between low and high educational respondents.

Ethnicity

Table 42 shows that a person's ethnicity was significantly ($p < .033$) related to his or her earnings on the first job. Whites and blacks earned most, followed by students of other ethnicities. Table 42 also indicates significant interaction ($p < .008$) between occupation and ethnic background. This effect was produced by black dental assistants who earned substantially more than their white classmates and those of other ethnicities. We discussed this case in an earlier study of graduates of these schools (Wilms, 1975).

However, while a person's ethnicity is related to his or her first earnings, its influence fades with time, becoming insignificant in terms of changes in earnings. Table 43 shows this lack of a statistically significant relationship.

SCHOOL VARIABLES

Type of School

Despite our earlier finding that there were no significant differences in job placement between public and proprietary students Table 44 shows that students who went to proprietary schools earned significantly more ($p < .011$) than their public school counterparts.

However, when we analyzed the relationship of respondents' change in earnings by their type of school, there was no significant association. So, while proprietary students earned more on their first jobs, the effect like ethnicity, weakened over time, and had no relationship to later earnings.

Persistence

The length of time a student persisted in school had no significant relationship to his or her first earnings, or later changes in earnings. Dropouts were equally likely to earn as much as those who persisted the average or long amounts of time.

TABLE 42

FIRST EARNINGS ON FIRST JOB BY OCCUPATION, SEX AND ETHNICITY (controlling for age, region, inflation and hours/week).

	Black	White	Other	
Professional, Managerial, Sales, and Clerical (Males) (US Census Codes 1-399)	4.84 (26)	4.76 (95)	4.82 (25)	4.81 (146)
Secretaries (Females) (370, 371, 372)	*	4.87 (95)	4.47 (11)	4.36 (114)
Clerks (Females) (300-369, 373-399)	3.85 (57)	4.14 (186)	3.63 (47)	3.87 (290)
Dental Assistants (Females) (921)	*	3.87 (113)	3.33 (18)	4.30 (140)
Cosmetologists (Females) (944)	*	2.49 (31)	1.69 (17)	2.04 (52)
	4.02 (104)	4.03 (520)	3.59 (118)	

*Deleted due to small cell size

1 = $50 or less per week
2 = 51 to 75 per week
3 = 76 to 100 per week
4 = 101 to 125 per week
5 = 126 to 150 per week
6 = 151 to 175 per week
7 = 176 to 200 per week
8 = 201 to 250 per week
9 = 251 to 300 per week
10 = 301 or more per week

TABLE 43

CHANGE IN WEEKLY EARNINGS BY OCCUPATION, SEX AND ETHNICITY (IN DOLLARS)
(controlling for change in hours/week,
inflation, job tenure, age and region)

	Black	White	Other	
Professional, Managerial, Sales, and Clerical (Males) (US Census Codes 1-399)	.95 (25)	1.20 (93)	1.20 (24)	1.12 (142)
Secretaries (Females) (370, 371, 372)	*	.68 (95)	.62 (10)	.61 (113)
Clerks (Females) (300-369, 373-399)	1.04 (56)	.94 (183)	.74 (47)	.90 (286)
Dental Assistants (Females) (921)	*	.68 (112)	.81 (18)	.60 (139)
Cosmetologists (Females) (944)	*	.82 (30)	.64 (16)	.58 (50)
	.63 (102)	.86 (513)	.80 (115)	

*Deleted due to small cell size

TABLE 44

FIRST EARNINGS ON FIRST JOB BY OCCUPATION, SEX AND TYPE OF SCHOOL
(controlling for age, region, inflation and hours/week)

	Public	Proprietary	
Professional, Managerial, Sales, and Clerical (Males) (US Census Codes 1-399)	4.61 (91)	4.96 (56)	4.78 (147)
Secretaries (Females) (370, 371, 372)	4.15 (32)	4.90 (83)	4.53 (115)
Clerks (Females) (300-369, 373-399)	3.84 (152)	4.11 (140)	3.97 (292)
Dental Assistants (Females) (921)	3.82 (68)	3.96 (72)	3.89 (140)
Cosmetologists (Females) (944)	2.29 (14)	2.15 (38)	2.22 (52)
	3.74 (357)	4.01 (389)	

1 = $50 or less per week
2 = 51 to 75 per week
3 = 76 to 100 per week
4 = 101 to 125 per week
5 = 126 to 150 per week
6 = 151 to 175 per week
7 = 176 to 200 per week
8 = 201 to 250 per week
9 = 251 to 300 per week
10 = 301 or more per week

TABLE 45

FIRST EARNINGS ON FIRST JOB BY OCCUPATION, SEX AND PROGRAM COMPLETION

(controlling for age, region, inflation and hours/week)

	Completed	Not Completed	
Professional, Managerial, Sales, and Clerical (Males) (US Census Codes 1-399)	4.82 (77)	4.63 (69)	4.72 (146)
Secretaries (Females) (370, 371, 372)	4.79 (87)	4.27 (24)	4.53 (111)
Clerks (Females) (300-369, 373-399)	4.06 (153)	3.77 (131)	3.92 (284)
Dental Assistants (Females) (921)	3.87 (129)	3.59 (10)	3.73 (139)
Cosmetologists (Females) (944)	2.20 (50)	*	1.54 (52)
	3.95 (496)	3.42 (236)	

*Deleted due to small cell size

1 = $50 or less per week
2 = 51 to 75 per week
3 = 76 to 100 per week
4 = 101 to 125 per week
5 = 126 to 150 per week
6 = 151 to 175 per week
7 = 176 to 200 per week
8 = 201 to 250 per week
9 = 251 to 300 per week
10 = 301 or more per week

Completion

Table 45 shows that students who completed their programs earned significantly ($p < .022$) more than non-completers. However, like "type of school," the effect of completion diminishes over time. When we analyzed the effects of completion on changes in earnings, there were no significant differences between completers' and non-completers'. Given the limitations of this kind of analysis, the finding that completers earn more initially by itself is hard to interpret. For example as we reported, proprietary students earned more on their first jobs than public students. We also reported in Chapter 3 that proprietary students were 1½ times more likely to complete their programs than public students. It is possible that the data in Table 45 mask this underlying relationship. Our finding that persistence, which controls for the type of school by standardizing persistence scores for each of them, lends support to this explanation. However, the regression analysis in the following Chapter overcomes these limitations by regressing earnings on a variety of independent variables simultaneously, showing the order of importance of each variable on earnings.

SUMMARY

So far in the analysis we have reported that students from more advantaged backgrounds tend to persist an average amount of time in school, and complete their programs significantly more frequently than students of more modest backgrounds. We showed that in some cases, in higher-level vocational programs, neither persisting in nor completing a vocational program was in any way related to the kind of jobs students got after leaving school. In other cases, the lower level vocational programs, women who persisted and completed their programs were far more likely to get the jobs for which they were trained than women who dropped out, or stayed on in school for longer amounts of time. But our interest does not end with job placement. The purpose of this part of the analysis was to examine the relationship of both students' background characteristics and their schooling characteristics to their first earnings on their first jobs and subsequent changes in earnings.

We found that students' background characteristics operated primarily in three ways: either they had no effect at all on earnings, they were initially associated with earnings but then diminished in importance, or they were not initially associated with earnings, but became more clearly important as time went on. Only students' age departed from this pattern in which the older and moderately older students initially earned the most, and increased their earnings the most. Students' educational status, while it differentiated those students who completed their programs from those who did not, was not significantly associated in any way with their earnings after leaving school. Students' ethnic backgrounds were significantly associated with their first earnings. Whites and blacks earned most, but as the respondents matured in the labor market, the influence of their ethnic backgrounds diminished.

Students' socioeconomic status and ego development were significantly related to their school persistence or completion. Social pragmatism was marginally, but not significantly associated. While all of these characteristics manifest themselves in on-the-job behavior, none was associated with respondents' first earnings. But they all were related to respondents' changes in earnings, and either operated to even out respondents' earnings (socioeconomic status) or to increase earnings (ego development and social pragmatism).

Students' occupations and sex significantly also figured into their earnings at each step. Male students who became employed in upper-level and clerical positions earned the most, followed by female secretaries, clerks, dental assistants and cosmetologists. The males' occupations apparently did not constrain their later earnings as did the females' as they continued to increase their earnings over time. However, females, in lower-level occupations seemed to reach ceilings in their jobs, and time appeared to even out earnings more than differentiate them.

In two out of three cases, students' schooling characteristics were related to their first earnings--proprietary school students, and those who completed their training earned more on their first jobs. Students' persistence was not related to their earnings. However, as with their ethnic backgrounds, their schooling characteristics became insignificant as time went on, and were not related in any way to their later earnings.

CHAPTER 6

ORDER OF IMPORTANCE OF STUDENTS' BACKGROUND CHARACTERISTICS AND SCHOOLING TO EARNINGS ON THE JOB

We saw in Chapter 3 that students from more advantaged backgrounds tended to persist in school an average amount of time and graduate from their programs significantly more often than their less advantaged classmates who were more likely to drop out or persist an abnormally long time. Chapter 5 showed that students' background characteristics were, as one would expect, related to their first earnings and later changes in earnings on the job. Chapter 5 also showed that students who attended proprietary schools, in all but one case earned more than students who attended public schools.

The analysis thus far helps us understand the ways in which many of the variables are related, but it does not allow us to determine the independent contribution of each background and schooling variable to earnings. For example do students with fewer personal resources earn less because they drop out of school more frequently, thereby depriving themselves of a schooling experience that would contribute to their earning power? Or, do they earn less because of their less-advantaged backgrounds independent of vocational schooling? Because of the limits to the analyses we have presented thus far, we are unable to adequately answer these important questions.

Consequently, this chapter presents the results of a series of stepwise multiple regression analyses. Regression analysis allows us to control for confounding factors and evaluate the specific independent variables, including students' backgrounds and schooling to the dependent variable, earnings. Because of low correlations between the independent variables of interest, we were able to avoid confounding problems that colinearity could produce.

TABLE 46

RESULTS OF REGRESSIONS OF BEGINNING WEEKLY SALARY AND CHANGES IN WEEKLY SALARY ON CHARACTERISTICS OF MALES IN PROFESSIONAL, MANAGERIAL, SALES AND CLERICAL JOBS
(U.S. CENSUS CODES 001-399)
(n = 109)

	Dependent Variable					
	Beginning Weekly Salary			Change in Weekly Salary		
Independent Variable	b	b*	F	b	b*	F
Age	.376	.24	8.35***	.358	.26	9.18***
Social Pragmatism	-.445	-.16	4.18**	.559	.23	8.42***
Ego Development	--	--	--	.257	.19	5.51**
Socio-Economic Status	--	--	--	-.408	-.18	5.22**
R^2	.374		15.56***	.388		7.76***

** F-value significant at a = .05
*** F-value significant at a = .005

PROFESSIONAL, MANAGERIAL, SALES AND CLERICAL MEN

For example, Table 46 presents the results of two separate regression analyses for men who took Professional, Managerial, Sales and Clerical jobs after they dropped out or graduated from school. The first analysis uses "beginning weekly salary" as the dependent variable. The second uses "change in weekly salary" which, as in the previous analysis, we computed by subtracting respondents' initial weekly earnings on their first jobs from their current weekly earnings. In the analysis shown in Table 46, we have controlled for sex and occupation effects by producing separate analyses for each occupational group which treats males and females separately. Second, we controlled for effects of hours worked per week on "beginning weekly salary," changes in hours worked per week on "changes in weekly earnings," and inflation and job tenure in both analyses by entering those independent variables into the regression equation first. By examining the standardized regression coefficients (b*) in Table 46 we can see that after the effects of hours worked per week, job tenure and inflation are controlled, mens' age explains more of the variation in "beginning weekly salary" for males in Professional, Managerial, Sales and Clerical jobs than any other measured variable. This corroborates our earlier finding that older men earn more, which we presented in Table 36. Similarly, we see from the second analysis in Table 46 that mens' age explains more of the variation in "changes in weekly salary" than any other measured variable, with older men gaining more income, than younger men.

Table 46 also shows "social pragmatism" to be of next importance in explaining variation in "beginning weekly salary" and "changes in weekly salary." It is interesting to note that the sign of the standardized coefficient (b*) changes, indicating a negative association between "social pragmatism" and "beginning weekly salary," which then changes to a positive association where "changes in weekly salary" is regressed on "social pragmatism." This change merely confirms our findings presented earlier in Tables 40 and 41.

Table 46 also shows that while mens' ego development and socioeconomic status were not significantly related to their "beginning weekly salary," they each became more important later in their working lives and helped to independently explain variations in their "changes in weekly salary."

Finally, the coefficient of determination (R^2) shows that by regressing the dependent variable on this combination of independent variables, we were able to explain 37 percent of the variation in "beginning weekly salary," and 39 percent of "changes in weekly salary."

However, our goal was not to maximize the explanation of the variation in income. Rather we wanted to determine the order of importance of background and school variables in explaining variations in income. We included "type of school," "persistence" and "completion," in the analysis but none of them were independently related to mens' income.

FEMALE SECRETARIES

Table 47 presents data from similar earnings analyses for women who took jobs as secretaries after either dropping out or graduating from public or proprietary schools. We earlier saw in Tables 28 and 29 that women who completed their programs and those who persisted the average amount of time were more likely to get the jobs of their choice. By regressing "beginning weekly salary" and "changes in weekly salary" on respective background and schooling variables, after controlling for inflation, hours worked per week and changes in hours worked per week, we were able to show that respondents' socioeconomic status and age were significantly related to their earnings. Initially, as Table 47 shows, older women with higher socioeconomic status earned initially higher beginning weekly salaries. But, as we pointed out in Chapter 5, though higher socioeconomic women tended to earn more in lower level jobs, experience in the labor market appears to even out earnings differences over time across socioeconomic status. This effect can be clearly seen in the ANOVA Table 35.

TABLE 47

RESULTS OF REGRESSIONS OF BEGINNING WEEKLY SALARY AND CHANGES IN WEEKLY SALARY ON CHARACTERISTICS OF FEMALES IN SECRETARIAL JOBS (U.S. CENSUS CODES 370, 371 and 372)

(n = 95)

	Dependent Variable					
	Beginning Weekly Salary			Change in Weekly Salary		
Independent Variable	b	b*	F	b	b*	F
Socio-Economic Status	.468	.23	6.48**	-.304	-.19	4.79**
Age	-.320	-.20	4.44**	.361	.30	10.49***
R^2		.314	10.19***		.378	10.58***

** F-value significant at a = .05
*** F-value significant at a = .005

Table 47 confirms this effect as the sign of the socioeconomic status standard regression coefficient changes from positive to negative.

Female secretaries' age operated on earnings in a similar way, but in the opposite direction. Table 47 confirms that pattern established in ANOVA Tables 36 and 37, that showed while younger women initially earned more, age served to even out their earnings over time.

After we controlled for inflation and hours worked per week, "socioeconomic status" and "age," with the control variables accounted for 31 percent of the variance in secretaries' first earnings. In the second regression analysis, after controlling for inflation and changes in hours per week, "socioeconomic status" and "age" with the control variables accounted for 38 percent of the variation in the "changes in weekly earnings." While we entered "type of school," "persistence" and "completion" in the analysis, none contributed to explaining variations in either "beginning weekly salary" or "changes in weekly salary."

FEMALE CLERKS

Table 48 shows the results of analyses which regressed "beginning weekly salary" and "changes in weekly salary" of females in clerical jobs (excluding secretaries) on the background and schooling variables. After the control variables were entered they explained 32 percent of the variation in "beginning weekly salary." None of the background or school variables contributed any further to explaining the variation in "beginning weekly salary."

As Table 48 shows, only "age" emerged as being significantly associated with "changes in weekly salary." With the control variables, they explained 42 percent of the variation in "changes in weekly salary." Neither "type of school," "persistence" or "completion" made an independent contribution to variations in "beginning weekly salary" or "changes in weekly salaries."

TABLE 48

RESULTS OF REGRESSIONS OF BEGINNING WEEKLY SALARY AND CHANGES IN WEEKLY SALARY ON CHARACTERISTICS OF FEMALES IN CLERICAL JOBS (U.S. CENSUS CODES 300-369, 373-399)

(n = 235)

	Dependent Variable					
	Beginning Weekly Salary			Change in Weekly Salary		
Independent Variable	b	b*	F	b	b*	F
Age	--	--	--	.147	.12	5.57**
R^2				.417		40.83***

** F-value significant at a = .05
*** F-value significant at a = .005

TABLE 49

RESULTS OF REGRESSIONS OF BEGINNING WEEKLY SALARY AND CHANGES IN WEEKLY SALARY ON CHARACTERISTICS OF FEMALES IN DENTAL ASSISTING JOBS (U.S. CENSUS CODE 921)

(n = 117)

	Dependent Variable					
	Beginning Weekly Salary			Change in Weekly Salary		
Independent Variable	b	b*	F	b	b*	F
Ethnic Backgound (Black)	3.555	.40	23.51***	-.821	-.18	4.64**
Age	.416	.18	4.87**	--	--	--
R^2		.299	11.77***		.257	9.61***

** F-value significant at a = .05
*** F-value significant at a = .005

FEMALE DENTAL ASSISTANTS

Table 49 confirms our earlier ANOVA results which showed that older black women initially earned larger "beginning weekly salaries." But, that effect reversed itself when we analyzed "changes in weekly salary." In those tables we saw that whites and women of other ethnicities increased their earnings more than blacks over time, thereby offsetting the initial earnings advantages held by blacks. See Tables 36, 37, 42 and 43.

The regression analyses presented in Table 49 confirm that pattern. Though older women held an initial earnings advantage, the effects of "age" became insignificant when we regressed "changes in weekly salary" on it. After controlling for inflation, job tenure and hours worked per week, those variables with "ethnicity" and "age" explained 30 percent of the variation in "beginning weekly salary." In the second regressions we substituted "changes in hours worked per week" for "hours worked per week." The control variables with ethnicity explained 26 percent of the variation in "changes in weekly salary."

As with the earlier regression analyses, "type of school," "persistence" and "completion" made no independent contribution to explaining variations in "beginning weekly salary" or "changes in weekly salary" for Dental Assistants.

COSMETOLOGISTS

Though we regressed "beginning weekly salary" and "changes" in weekly salary" on the background and school variables, neither background or school variables explained any variation in "beginning weekly salary" or "changes in weekly salary" beyond the control variables' contributions.

ALL OCCUPATIONS

A person's occupation is a complex product of one's background and prior schooling. To minimize the complexity and reduce competing explanations for the findings, we developed this analysis on an occupation-by-occupation basis.

Having completed that stage in the analysis which allows us to more accurately interpret the results, we now turn to an analysis which regresses "beginning weekly salary" and "changes in weekly salary" on the independent background and school variables for all occupational groups. In the first regression analysis we controlled for inflation, hours worked per week and job tenure, by entering those variables in the analysis first. Table 50 shows that following those variables, respondents' sex, type of school, socioeconomic and educational statuses independently contribute to explaining the variation in "beginning weekly salary." As we knew, women earned less, respondents who attended proprietary schools earned more, and those with greater socioeconomic and educational statuses initially earned more than their less-advantaged classmates. Taken together, those independent variables explained 27 percent of the variation in respondents' "beginning weekly salary." Neither "persistence" nor "completion" was significantly associated with first earnings.

In the second analysis, we regressed "changes in weekly salary" on inflation, changes in hours per week and job tenure as control variables and respondents' background and school variables. Table 50 shows that across all occupations, respondents' age is the most important explanatory variable when analyzing "changes in weekly salary." Sex is of next importance, with women still earning less than men, though by comparing the standardized regression coefficients from the two analyses, the reader can see the sex effect has weakened. Though "type of school" was signficantly related to "beginning weekly salary" its effects have disappeared. However, as we saw in the ANOVAS, ego development comes into play later in respondents' working lives. Those with higher ego development increase their income more than others. Finally, socioeconomic status continues to help explain variation in "changes in weekly salary," but as we reported earlier, the effect has become negative allowing those with lower socioeconomic status to catch up in earnings.

TABLE 50

RESULTS OF REGRESSIONS OF BEGINNING WEEKLY SALARY AND CHANGES IN WEEKLY SALARY ON BACKGROUNDS OF MALES AND FEMALES IN ALL OCCUPATIONS

(n = 766)

	Dependent Variable					
	Beginning Weekly Salary			Change in Weekly Salary		
Independent Variable	b	b*	F	b	b*	F
Age	--	--	--	.204	.15	23.56***
Sex	-.860	-.19	33.90***	-.414	-.11	12.05***
Type of School (Proprietary)	.443	.11	12.69***	--	--	--
Ego Development	--	--	--	.115	.10	10.04***
Socio-Economic Status	.166	.07	4.29**	-.132	-.07	4.90**
Education	.191	.07	3.99**	--	--	--
R^2	.273		25.56***	.331		52.51***

** F-value significant at a = .05
*** F-value significant at a = .005

While educational status initially helped explain variations in "beginning weekly salary" its effect diminishes over time.

In Chapter 3 we reported that students from more advantaged backgrounds persisted in school an average amount of time and completed their programs significantly more often than their less-advantaged classmates. In Chapter 4 we reported that while persistence and completion were unrelated to job placement for students who studied for upper-level jobs, average persistence and program completion did result in superior job placement for lower-level, female occupations. In Chapter 5 we reported that students' background characteristics, their type of school, and their program completion were related to their earnings on the job. Analysis of variance is a useful tool in describing complex associations between respondents' background and school variables and their earnings and with large samples it can be used to explain contributions of these variables to earnings. But in using analysis of variance, our objective was not to explain contributions of the independent variables to earnings but to understand in detail the relationship of each one to earnings. If we had had a much larger sample we could have simultaneously analyzed the relationship of each independent variable to earnings, and its unique contribution to earnings but the size of this sample prevented this kind of analysis. Consequently, using analysis of variance we were unable to interpret for example, the finding that students who complete their programs initially earned larger weekly salaries. We could not tell whether increased earnings were due to an independent contribution of finishing school, or whether completers enjoyed greater earnings because they were more socially advantaged. Regression analysis, which we used in this chapter, overcomes this limitation.

SUMMARY

This analysis confirms that students' backgrounds have a profound effect on their earnings. Put another way, we can find little evidence that dropping out or completing a vocational program makes any difference in one's initial or later earnings. Though in Chapter 5 we reported that five our of six times proprietary school graduates earned more initially, this analysis shows that effect stemmed more from students' background characteristics which were masked by their schooling. Those who were less advantaged dropped out more frequently and earned less than their more advantaged classmates who tended more often to complete their programs. But the reason they earned less appeared to have little to do with whether or not they dropped out or completed their programs. Rather their earnings were more a function of their backgrounds.

Although females who trained for lower level jobs were more likely to get them if they persisted an average amount of time and graduated, dropouts were as likely to earn as much as graduates across all occupational categories.

We did find, however, that students who went to proprietary schools initially earned more. But this finding is of limited interest because once in the labor market, the differences in earnings associated with students' type of school disappear.

However, a glimmer of hope appears in the finding that students who are older and who have higher levels of ego-development continue to increase their earnings over time.

We shall discuss these and other findings in more detail in the following chapter.

CHAPTER 7

SUMMARY OF FINDINGS, CONCLUSIONS AND DISCUSSION

Data from this study, which followed 1,303 vocational students from their first weeks of class for two and one-third years, leads us to the following key findings and conclusions.

A. Key Findings

1. Dropouts and students who remain in school for abnormally long times are the least advantaged students in both public and proprietary schools.

In Chapter 3 we reported students who dropped out of the vocational programs were most likely ethnic minorities, and of lower socioeconomic status. These students were older, had lower educational status, made lower grades in high school and made more grammar errors than those who graduated. If we also consider the disadvantaged characteristics of the 205 students we interviewed in the Fall of 1973 but were unable to find 17 months later, and the 111 students who were still in school after the final survey was taken, these distinctions become even sharper. We also found dropouts and students who lingered on in school, despite their inability to complete even a vocational program, had unrealistically high educational expectations as many expected to achieve at least a bachelor's degree.

Further, we reported contrary to the conventional wisdom, public students did not take abnormally long to complete their programs. Only 14 percent were still in school when the study ended. The other 86 percent had either successfully graduated or had dropped out with no intention of returning. Only small percentages of both public and proprietary students said they had dropped out to take a job or transfer to a four-year college.

2. Men and women who dropped out of upper-level vocational programs got similar jobs as graduates.

In Chapter 4 we reported results that substantially matched our 1975 study, in which only 14 percent of the men who studied for upper-level jobs (accounting, computer programming or electronic technician) got them. Even after we considered jobs of a similar pay scale and social standing as a successful placement, the placement rate for men did not exceed 33 percent.

Further, we reported that none of the women who studied for upper level jobs got them. All of those women took lower paying clerical or unrelated jobs.

But, most important, we found that these students' first jobs were unrelated to whether they dropped out or graduated. It simply made no difference.

3. Women who dropped out of lower-level vocational programs were far less likely to get jobs for which they trained than graduates.

Women who studied to become secretaries, dental assistants and cosmetologists, but dropped out did not stand as good a chance of getting the jobs for which they trained as the women who completed their programs. For example, 47 percent of the women who studied to become secretaries and graduated got jobs as secretaries compared with 20 percent of the dropouts. Seventy one percent of the women who studied dental assisting and graduated became dental assistants compared with only 21 percent of the dropouts. And, 85 percent of the women graduates who studied cosmetology became cosmetologists, compared with 10 percent of the dropouts.

4. Dropping out of a vocational school has little influence of students' earnings which are more a function of their background characteristics.

Though women who graduated from lower level vocational programs got the jobs for which they trained more often than dropouts, their earnings were no greater than their classmates who failed to complete school. In Chapter 6 we reported the same results for students in all other programs studied--we found little evidence that dropping out or completing a vocational program made any difference in students' initial or later earnings. Instead, students' earnings were more a function of their backgrounds. Men, and all students of higher socioeconomic and educational status earned more on their first jobs. As students matured in the labor market, their ages played an increasingly important role as older students got larger raises. Students' educational status had little to do with their raises, and students from the lower end of the socioeconomic spectrum began to catch up in earnings once on the job--a phenomenon we attribute to earnings ceilings on jobs these students took. Finally, after initial employment, students' ego development became associated with their earnings--those in the middle or Conformist range earned most.

5. Proprietary schools train students for entry-level employment more efficiently than public schools.

We reported in Chapter 3 that within 2 1/3 years 69 percent of the proprietary students had graduated, compared with 46 percent of the public students. Put another way, proprietary school students' chances of graduating within 2 1/3 years were 1½ times greater than their public school counterparts. Part of the reason for this difference lies in the relative dropout rates (See Table 4 on page 32)--40 percent for public students and 28 percent for proprietary students. Another reason proprietary school completion rates were significantly higher stems from the small number of students who lingered on in school after 2 1/3 years--about three percent. However, 14 percent of the public students were still in school 2 1/3 years later, thereby depressing the overall public school completion rate. In Chapter 3 we showed how students' backgrounds and completion rates were related. Those from the most advantaged backgrounds were significantly more likely to graduate than others. The students who were still in school were the least advantaged in the study, and though we have no way of knowing, generalizing from our earlier findings, it seems doubtful that a substantial number of these students graduated.

But the finding that within 2 1/3 years, proprietary school students were far more likely to graduate than their public counterparts is clear. Also, in Chapter 6 we reported that although graduates' earnings were no different than dropouts', proprietary school students earned more on their first jobs than public students. We also reported that this relationship fades with time and both public and proprietary school students received about the same raises in pay after initial employment.

B. Conclusions

1. Vocational education is not an effective way to equalize opportunity.

If by equalizing opportunity, we mean equalizing peoples' chances for employment and earnings, we can find little evidence in this study to encourage promoting vocational education for that purpose. As we pointed out in Chapter 1, the federal investment in vocational education was originally justified partly on the theory that it would keep youngsters in school, equip them with job skills, and thereby promote equality of opportunity. However, results from this study show that students for whom vocational education is thought to hold out particular promise, students from less advantaged backgrounds, are the students most likely to drop out.

Further, by analyzing the fit between this kind of schooling and the job market, we can find little evidence that it promotes equal opportunity. Less than one third of the men and none of the women who studied for upper-level jobs got them. Rather they took lower-level, lower-paying jobs. And, we found no evidence that staying in school longer improved their chances, as dropouts did as well, or as poorly, as graduates. However, as we found in our 1975 study, the further down the job hierarchy one goes, the fit between vocational education and jobs improves. A high percentage of women who studied for lower-level jobs got them, and their chances of getting the jobs for which they trained improved dramatically if they graduated. In other words, at the upper levels of the occupational structure, vocational education appears to be nearly irrelevant to job placement, while at the lower levels the relationship is more positive.

The finding that students' earnings are more a function of their backgrounds than whether or not they drop out supports the conclusion that vocational education is not an effective way to promote equality of opportunity.

a. Discussion:

This conclusion fits into a larger body of research that indicates schooling cannot by itself alter social class differences. Studies by Jencks (1972), Katz (1973) Bowles and Gintis (1976) and others have shown how schooling can do little more than reflect the given social order. The contribution it does make to social standing stems largely from its screening function. Whites from higher socioeconomic backgrounds are most likely to be screened into prestigious four-year colleges (Hansen and Weisbrod, 1968). White middle-class males are more likely to achieve greater occupational prestige and earnings than women from the same backgrounds. Men and women from less advantaged backgrounds are selected into shorter, less prestigious educational programs like community colleges, that confer less prestigious credentials. Within the community college, economically disadvantaged students are most likely to enroll in vocational programs (Karabel, 1972).

Systematically sorting people into educational programs on the basis of their backgrounds which in turn influences their occupations and earnings, runs counter to our democratic principles. It also places the schools in an unenviable, no-win position. This body of evidence into which this study fits suggests the futility of trying to equalize opportunity solely through education. We think the situation will worsen in the future because of three emerging forces in the social order.

First, the 1970 Census figures show that this year the nation's largest cohort of 18 to 21 year olds (17 million compared with 9 million in 1950) will enter the labor market. Though the numbers of 18 to 21 year olds will drop off, the effects of the 1980 cohort will be felt in the labor market for years to come.

Second, not only is this cohort huge, its members have spent, or plan to spend, more time in school than any previous group. Most predictions report that at least 30 percent of the 1980 cohort expects to achieve a bachelor's degree, and 20 percent more plan to complete at least one year of college. As study after study shows, more education leads to higher expectations for occupational status and earnings. The Bureau of Labor Statistics estimates that for each year between 1980 and 1985, we will experience an annual surplus of 140,000 college graduates (Bureau of Labor Statistics, 1974).

Third, the labor market probably will not be able to absorb these young people as it has in the past. O'Toole (1974) estimates that professional-technical job category likely will grow to 20 percent of the work force by 1985, but there will be a surplus of two and one half college graduates for each of those jobs. Brunner (1976) points out that jobs classified as professional-technical which are typically held by college graduates grew rapidly in the 1960's but that rate of growth slowed in the 1970's and its projected to decline even more in the 1980's.

These forces have already begun to produce what Freeman calls "over-education" (1976) and O'Toole calls "underemployment" (1974). These new concerns reflect changing labor market conditions in which more highly-credentialled workers "bump down" less highly-credentialled workers into lower-level jobs. For example, Berg (1971) found that 80 percent of American college graduates filled jobs previously filled by people with lower educational credentials. Since Berg's perceptive study, O'Toole (1974) and others have helped us to more fully understand how less-credentialled workers are displaced by an oversupply of highly credentialled workers. As we have pointed out, people's backgrounds are systematically related to their schooling. Those from poorer families more often enroll in vocational education and settle for fewer years of schooling. As a result of their limited credentials, they are less able to compete for the "good" jobs against more advantaged workers with more potent educational credentials.

The oversupply of highly-credentialled workers then sets off a vicious cycle which has been observed world wide. In the face of this manpower cornucopia some employers assume that if some education is good, then more must be better, and by raising or "upgrading" their educational requirements, productivity will increase. To others, screening on the basis of educational credentials is a cheap way to select employees with certain characteristics. Gordon (1974) estimates that between 1959 and 1971, 40 percent of the increase in employment of college graduates was due to employers' raising their requirements for educational credentials. Berg (1971) investigated whether increased education resulted in greater productivity and concluded it did not. He, and O'Toole later (1974), concluded that increased education was not only unrelated to increased productivity, but that it appeared to be a root cause of worker dissatisfaction. Nevertheless, as Dore (1976) observed in England, Japan, Sri Lanka, and Kenya, employers inflate their educational requirements to meet this new supply. The schools--particularly those in the United States which are seeking new clients to offset the drop in the birthrate--respond to this inflated market by offering new and longer programs.

While a good deal of educational "upgrading" happens at the professional-technical level, a substantial amount goes on at lower levels too. Collins (1971) and Rodriguez (1978) noted that rapid credential inflation has recently taken place in lower level, white- and blue-collar occupations. Schools have responded to this perceived demand by shifting resources away from high school to postsecondary vocational education programs. Between 1974 and 1976 enrollments in postsecondary vocational education grew 36 percent, against an eight percent vocational education growth rate overall (National Center for Educational Statistics, 1978). According to the American Association of Higher Education, the number of associate degrees awarded mushroomed between 1970 and 1976, outstripping bachelor's degrees by five to one (1978).

These figures imply the unspoken policy that longer career training is the answer to employment problems of young people from the lower rungs of the economic ladder. Findings from this study, which show that dropping out of a postsecondary vocational education program makes no difference in initial or later earnings, contradict this popular assumption. We argue that continuing the policy of emphasizing vocational education for low-income students is a seemingly benign, but undemocratic, policy for two reasons.

First, needlessly inflating educational credentials hits low-income people the hardest. As education inflation proliferates, each new generation needs more education to qualify for the same jobs. Despite various forms of financial aid, poorer families who subscribe most heavily to vocational education, can least afford the out-of-pocket and foregone opportunity costs of extended schooling that does not increase earnings or occupational mobility.

Second, vocationalizing education also hits low-income people the hardest. Dewey (1914), originally an ardent supporter of vocational education, warned of the anti-democratic potential inherent in vocational education that was conceived as a program for only a certain group of children. Separating vocational education from academics, Dewey claimed, would deprive academic education of purposeful activity promised by vocational education and set vocational education apart as non-academic education for second-class children. Despite attempts to resist educational tracking, de facto tracking exists within the public schools. The vocational education track is largely reserved for those who go to work rather than continue their education. Because most vocational education courses are divorced from the academic program, they cannot be transferred for academic credit. Being tracked into programs that emphasize narrow training, with no compensating payoff in the labor market, at the expense of developing basic literacy and problem-solving abilities is a particularly heavy burden to put on the poor.

Growing evidence suggests that getting a foothold in the occupational ladders of the future, and climbing them successfully, will depend more on general abilities than entry-level job skills. Lusterman's recent survey of medium and large firms (1977) documented employers' demand for more broadly educated employees. Most claimed they wanted employees who are not narrowly trained, but who can read, write, compute, solve problems and adequately express themselves to their fellow workers and customers. Employers also say they want what Thurow (1979) calls "industrial discipline"--attitudes and abilities that prompt employees to get to work on time and work hard.

In a study of diverse blue- and white-collar occupations in New York City, Lynton (1978) underscored Lusterman's findings. She reported that employers were first interested in applicants' command of basic English, the ability to "think," solve problems and compute, and in applicants' positive personal styles.

Many vocational educators subscribe to a conventional wisdom that holds technological advances will eliminate unskilled jobs and create new technical or semi-skilled jobs for which vocationally educated community college graduates are particularly well suited (Harris and Grede, 1978). Detailed analyses of the impact of technology on jobs, however, contradict this popular view. In her New York City study, Lynton found that industries that were susceptible to technological advances registered a decrease in semiskilled jobs and an increase in highly technical and unskilled jobs. She gives the example of computerization of the bookkeeping function in firms. Typically, bookkeepers and accountants without the CPA designation get on-the-job training in keeping accounts or they train at vocational schools. But when a firms' bookkeeping system is computerized, the bookkeeping function requires only a few highly skilled systems analysts and a larger number of low-skilled data entry clerks. Kraft (1977) discovered the same principle in a micro-study of the routinization of computer programming. He showed that as computer programming has become mass produced, a large gap has appeared between the elite, college-educated systems analysts and the lower-level vocationally-trained coders and keypunch operators. Though employers create expansive-sounding job titles to symbolically offset deskilling and job fragmentation, jobs in the lower part of the system have little potential for upward mobility, according to Kraft. He predicts only lateral job mobility for narrowly trained programmers from one work detail to another, with other possibilities limited to production or clerical work. The importance of these findings lies in their impact of further stratifying occupations by educational backgrounds and the type of work done and further impeding upward job mobility.

According to members of UCLA's Center for Quality of Working Life and Robert Cole of the University of Michigan a growing number of U.S. employers have recognized the longrun costs of job fragmentation and deskilling. Researchers claim that as jobs are broken down into their simplest elements so the flow of work can be more centrally controlled and the work done by employees with a low level of training and skill, that workers shed all commitment to the product or firm. Consequently, worker absenteeism and turnover increase along with costs of inspection and quality control. As firms restructure jobs to more fully integrate thinking and doing in order to give workers more control over production, new abilities are needed. For example, Cole (1979) points to a growing number of U.S. and Japanese firms that have organized work to more fully engage employees in the process thereby improving quality and cutting costs. Cole details Toyota's extensive career enlargement program designed not only to more fully engage workers in production and quality control decisions but to increase their career options and satisfaction through large investments in training and education. Cole's view of job stratification is not as pessimistic as Lynton's and Kraft's, but his research points clearly to the need for employees to be problem solvers and be able to work creatively and cooperatively in groups.

If Lusterman's, Lynton's, Kraft's, and Cole's views accurately reflect emerging employment trends, they hold important implications for vocational education's role in equalizing opportunities. Students trained only in rote job skills may find entry-level employment, but unless they can effectively communicate, compute, solve problems and navigate their way within the job market, they most likely will find themselves unable to escape from the bottom of the job hierarchy. In this way, narrow vocational education at the expense of general education will likely serve to further intensify class division.

2. Proprietary schools can provide vocational education more efficiently than public schools.

While this study's findings point to a reduced role for vocational education as a tool for promoting equal opportunity, there will no doubt continue to be a demand for entry-level job training. The Employment and Training Report of the President (1978) shows that the clerical and service sectors of the labor market are projected to be the two fastest growing occupational categories for the next five years. Most of the jobs that make up those categories (secretaries, billing machine operators, file clerks, keypunch operators, dental assistants, waitresses and many others) require only a few months of training at most, and much of that training is done on the job.

Findings from this study lead us to conclude that proprietary schools are more efficient than public schools in providing such training. For example we reported that proprietary school students were 1½ times more likely than public students to graduate within 2 1/3 years and that they earned more on their first jobs. In our 1975 study, we reported that proprietary schools found ways to cut the costs of training with no apparent loss in placement and earnings of their graduates. Though proprietary schools had fewer resources than publicly-supported schools, they used them more intensively. Proprietary schools' programs began frequently and could be scheduled around the clock to accommodate diverse student bodies. Proprietary schools hired teachers with less conventional academic backgrounds, paying more attention to job experience and ability to teach. Proprietary schools paid their teachers less, but demanded more of them. On the average they earned 65 percent of their public counterparts' earnings (not taking into account that most public school teachers are on nine-month contracts) but taught 33 percent more hours each week.

In the 1975 study and this one we found that proprietary schools could cut their programs to at least half the length of public programs with no loss in placement.

This study was not designed to identify costs of vocational education, but the message in even these rudimentary findings is inescapable particularly in the current atmosphere ot cost cutting and efficiency to reduce taxes: proprietary schools do as well if not better than public schools in training their students for entry-level employment at far less cost.

a. Discussion:

In addition to efficiencies found in proprietary schools we have reported, private sector training offers other advantages that are apparent to the observer but fell outside the focus of this study. Because of proprietary schools' organizational structure, which we detailed in Chapter 2, they have incentives, lacked by public schools, to stay abreast of local labor market changes. For example, in the early 1970's when we were designing these studies, we examined state records and found that when the Northern California space industry was expanding, over 50 proprietary schools and most public community colleges in the Bay Area offered vocational programs to train electronic technicians. But by 1970, when the bottom had fallen out of the space industry, all of the proprietary schools had either diversified into other fields or gone out of business. This change may have meant that a smaller, less profitable market could be served by the public sector alone, but perhaps the public schools simply were unaware of or unable to respond to local changes in the labor market.

This ability to drop ailing programs and shift resources to more productive ones is important, particularly in entry level training because most firms do not plan manpower needs far in advance. Freedman, in a thoughtful review of private sector training (1979) claims that few firms with less than 500 employees do any personnel planning. Underscoring the point former Assistant Secretary of Labor Arnold Weber quipped to the Wall Street Journal:

> Although management's approach to capital projections borders on reverence, it generally views personnel planning from the same perspective as a sailor on overnight leave in Marseilles. (Wall Street Journal, January 30, 1978, p. 14, cited in Freedman, 1979)

Proprietary school training may offer another important advantage. Because most of this privately sponsored training lies outside of direct public control, it tends not to be standardized along conventional lines. Typically academic credit is not awarded for such training (though some proprietary schools continue to press for degree-granting authority) and it is geared more directly to short-term training objectives. Public policies that encouraged short-term private training could likely achieve added efficiencies by shifting much of this training out of the public sector and the senseless and expensive web of credentialling that has been spun around it.

Finally as much of this training is done on the job, private employers themselves may be able to do their own entry-level training most efficiently. In his national survey of firms, Lusterman (1977) reported an officer of a leading manufacturing firm said:

> It' impossible to know what our manpower needs will be in five or ten years, and therefore the basic need is for flexible people who have been trained in reading, writing, basic computational skills, and thinking. We can teach them the rest. (p. 62)

However, any policy that uses public monies for private training not only carries complex equity questions with it, but involves risks as well. Any new public policies that would use public funds for private training cannot ignore the excesses of some unprincipled proprietary school owners who use slick

TV ads and hard-sell techniques to recruit obviously unqualified students for questionable job training and non-existent jobs. Case after case of misleading advertising and low placement rates were documented in hearings held before the Federal Trade Commission as it sought new powers to regulate the proprietary school industry. There is little doubt that thoughtful regulation is needed for any organization, public or private that receives public funds for training.

CHAPTER 8

RECOMMENDATIONS

Though public vocational education was originally designed to promote both equality of opportunity and efficiency, this study suggests it does neither very well. As we summarized in Chapter 7, data from this study show less-advantaged students, those for whom vocational education is thought to offer a special route into the opportunity structure, are the most prone to drop out. We found that except for women who chose traditional, female occupations, dropping out made no difference in job placement. Findings also showed that students' income on the job was unrelated to whether or not they finished school. Rather, differences in their earnings stemmed more from their backgrounds. Finally, within this bleak set of findings, we reported that insofar as a demand for entry level training continues, proprietary schools appear to do the job far more efficiently than public schools.

From these findings we concluded that vocational education is not an effective social tool to promote equality of opportunity, and that short-term job training can be done more efficiently in the private sector.

These findings and conclusions lead us to three main recommendations:

1. All students, whether in public or public or proprietary schools, are entitled to reliable, verifiable information on the outcomes of individual vocational programs before enrolling.

On the basis of this study we cannot say vocational education has no value. Only after randomly assigning students to groups which had and did not have vocational training and being able to perfectly measure differences in outcomes could we talk about vocational education's value with certainty.

No studies ever enjoy such freedom or precision. However, within the limits of this study we found no evidence that vocational education plays an important role in equalizing students' opportunity in the labor market.

This conclusion leads us to recommend that students have accurate, verifiable information on how well former vocational students have fared in the job market. This information would at least allow students to choose training for themselves based on their own judgments of its value.

Discussion

This recommendation is not new. On the basis of our 1975 study, we recommended such policies, later called "Truth in Training" by Benson (1980). Subsequently the Federal Trade Commission held extensive hearings which documented the absence of such information in the private sector. On the basis of those hearings, the FTC developed a trade regulation rule that would have required only proprietary schools to divulge dropout and placement rates to prospective students. The private school industry recently argued before the courts that such a requirement, because it would not apply to their public school competitors, would be discriminatory. For this and other reasons, the courts ruled in favor of the private schools and returned the rule to the FTC for redrafting. If the FTC staff does resubmit the rule to the Commission for adoption, we urge them to find ways, perhaps through cooperation with state legislatures, to extend such informational provisions to include public schools.

Information on training outcomes is now required as a condition for schools to receive certain federal financial aids. For example schools that receive guaranteed student loans must make a good faith effort to give prospective students a complete and accurate statement describing the school and its programs. In cases where students are preparing for jobs, schools are required to divulge information about employment opportunities in specific careers, as well as its graduates' placement and earnings in the past. But those requirements are meaningless because if a school is unable to produce such information on its own, it may use regional or national labor market data which are notoriously unreliable and irrelevant to individual schools.

The Vietnam Act of 1974 (PL 3508) stipulated that to qualify for GI Bill students, a school must demonstrate that 50 percent of its students who have completed courses over the past two years, and who are available for work, have found employment in the occupation for which they were trained. But, the requirement lacks focus as the words "specific occupation" were dropped from the bill in legislative conference. Thus students seeking training as computer programmers, but obtaining jobs as keypunch operators, would be counted as successfully employed.

While this recommendation moves in the right direction, implementing it would likely create some possibly serious unintended consequences. For example:

-If schools' placement records played a major role in attracting students, unless there were some controls or other counter influences, schools would be motivated to recruit only students who were likely to get jobs relatively easily, e.g., white males. This would leave even fewer options for low-income, minority students and females.

-Marginal schools serving clienteles that are especially disadvantaged might be forced out of business. For example, our study identified a number of proprietary schools in Miami that catered exclusively to Cuban immigrants, offering cosmetology training. The average starting salary for a graduate of one of these schools was considerably less than the federal minimum wage; yet without such training, there is a likelihood the graduates would have remained unemployed and on welfare. If such schools, that have a marginal but positive effect on students' lives, were to be required to provide data showing the earning level of graduates, the schools might be unable to attract students.

-Regulations might provide no incentives for schools to offer training for labor markets that are specialized and limited but nevertheless important, such as legal aides or horseshoeing specialists.

-Legislation emphasizing only quantifiable results may have the undesired effect of encouraging schools to undertake only programs that have clearly quanitifiable results.

2. The private sector should have an expanded role in providing entry-level job training.

There is little doubt that in the next two decades, entry-level employment will continue to grow. Already, employers and proprietary schools account for billions of dollars each year training men and women to gain footholds in the job market.

This study has shown clear evidence of advantages offered by the private sector in providing entry-level training, which if expanded would likely create added efficiency. Social efficiencies would be created by policies that took advantage of natural incentives that cause profitmaking institutions to use their resources efficiently. For example, as we reported in Chapter 2, most proprietary schools included only job-related material in their curricula, shorten their courses to absolute minimums and put a high priority on job placement in local job markets. Under policies that created incentives for broader private sector training, students would realize personal efficiencies by having access to training related to real labor market needs, done in the shortest possible time and competitively low cost.

On the other hand, efficiencies that now characterize private sector vocational training may be lost if such training were greatly expanded. For example, teachers might organize and demand higher wages thereby driving up the cost of such training. This view may be accurate and should serve as a caution in developing new policies without carefully considering the assumptions that underly them, and their likely consequences.

Discussion

Silberman (1980) and others argue that such short-term training could be done as efficiently in the public sector, and should be equally available through public schools. There is little doubt that under some circumstances public schools can successfully compete against the private school model. But we feel, and our data support that view, those examples are more exceptions than the rule. For no matter how hard public schools may try to provide short-term training efficiently, their incentive structure, as we pointed out in Chapter 2, works against such efficiencies. Instead public schools, encumbered by tenured faculties and education codes that constrain curricula content, have incentives to elongate programs, reward teachers on bases other than teaching ability, adhere to relatively rigid academic schedules and to remain distant from changing local market demands. We think however, that public schools should be given the option to develop short-term training if they choose, thereby encouraging exceptional programs to continue, providing some balance to the private sector and widening students' choices.

Two ways to expand the private sectors' role in entry-level training warrant discussion--subcontracting between public and proprietary schools, and vouchers or entitlements.

A. Subcontracting

Though it has not worked out well in California, one avenue for expanding the private sector's role in training lies in contracting between public and private schools. Under such arrangements public schools relieve themselves of vocational training by contracting it out to private schools. But the public schools control both the revenues produced by students who enroll for such training through public schools, and the authority to grant degrees and certificates. Federal law specifically allows:

> Provision of vocational training through arrangements with private vocational training institutions where such private institutions can make a significant contribution to attaining the objective of the State plan, and can provide substantially equivalent training at a lessor cost, or can provide equipment or services not available in public institutions . . . (PL 94-482 as amended by PL 95-40, Section 120 (N))

As the law was interpreted in regulations at both the federal and state levels, the problems of balancing equity and efficiency became apparent. For example, California regulations on contracting provide that programs offered by proprietary schools under contract must:

-not unnecessarily duplicate offerings within the region serviced and provide programs not otherwise available;

-not reduce or supplant vocational education offerings of any district;

-be accredited by an accrediting agency recognized by USOE or one that conforms to guidelines on contractual relationships with non-accredited organizations established by regional accrediting agency;

-provide instruction under supervision and control of teachers who hold valid credentials to teach vocational subjects in California community colleges.

In 1978 the California Auditor General studied vocational education contracting in California. The report found that of the 167 contracts during 1977-1978, actual costs of training in private schools were $6.8 million, but public revenue produced by students who enrolled for training through public schools was $24 million. The residual, $17.2 million, was kept by the public schools thereby vastly inflating the costs of training to the taxpayer.

The report also found no evidence these contracted programs were related to labor market demand. In fact, there was some evidence that contracting created markets of its own. For example, over 70 percent of the contracts were in cosmetology--a generally depressed job market. But, nearly 6,000 students were trained at public expense with no evidence of either job demand or successful job placement. The report also noted that vocational education contracting dramatically shifted the proportion of students who paid their own way to publicly-subsidized students. In 12 of the 18 private schools the Auditor General's staff visited, it reported publicly-subsidized students made up over 90 percent of the student body.

This example is important for it demonstrates the negative side effects that can so easily emerge from seemingly thoughtful public policies. While contracting might seem to promote equality of opportunity because training was made widely available at no direct cost to the student, it was highly inefficient. Costs to the public were exorbitant--more than four times the actual costs of training. Under the law, competition between public and private schools is banned, and private schools become extensions of public schools. Public funds follow students through the public schools to proprietary schools. Providing fiscal incentives to both schools and at the same time suppressing competition hold the potential to lead schools to create training programs for which there is little demand. The Auditor General's report also uncovered evidence that proprietary schools are encouraged to enroll only publicly-subsidized students because of the guaranteed nature of the student market. If this happened on a national scale, proprietary schools would likely become totally dependent on the public sector, rather than the student market. Also, because full tuition is paid by the public sector, students who might ordinarily enroll in proprietary schools at their own expense might now enroll through the local public school, thereby shifting the training costs almost exclusively to the public sector. Finally, attempts to protect students in the form of added requirements for proprietary schools, which are not necessarily related to program effectiveness, might lead profitable schools to avoid contracting. Only marginal schools seeking to hedge their bets might be attracted to such arrangements.

B. Entitlements or vouchers

Another way to expand the private sector's role in entry level training lies in entitlements or vouchers. Under an entitlement or voucher system, aid which formerly went to maintain institutions, goes instead to the student. Given sufficient, reliable information, a voucher system, assumes the student is best able to choose education and training that suits his or her needs.

Entitlements or vouchers are not a new idea. The GI Bill provided a model, which effectively allowed millions of men and women to go to the school of their choice. Basic Educational Opportunity Grants and other federal aid programs, which have been targeted toward students rather than institutions have moved incrementally toward an entitlement program.

In California a modified vocational training entitlement program has quietly been developed. Administered by the State Scholarship Commission, the Occupational Training Grant Program provides over $3 million each year for training in either public or private schools. More than one third of the grants (about 1,500 are awarded each year) go to students who chose proprietary school training. Though the program is only now being evaluated, anecdotal evidence suggests it may be both an equitable and efficient approach to training.

In manpower, entitlements are not a new idea either. The interest in relying more on market mechanisms to deliver training is evident with the passage of CETA, in which Congress directed the Department of Labor to experiment and evaluate the voucher concept.

Recently the Bureau of Social Science Research evaluated schools' responses to training programs conducted under the Work Incentive Program (Dunning, 1975). The program tested the feasibility of introducing a voucher system for skill training in Portland, Oregon. The model had few restrictions. Participants could purchase vocational training programs in any occupation up to one year in length from any school in the metropolitan area. There was virtually no limit on tuition costs (a regional official had to approve expenditures over $2,500). Two hundred students participated in 48 different occupations. The evaluators concluded that vouchers or entitlements presented no problems to the schools. They found no evidence of unethical school behavior and concluded that students were capable of making their own choices, given enough information.

Drawing on developing policies in some European nations, Levin (1979) has outlined the concept and design of an entitlement system for recurrent education and training. Under this plan, entitlements (which could be a mixture of government grants and loans depending on students' economic position) could be redeemed for both education and training over a student's lifespan. Other attractive aspects of an entitlement system are that students retain the responsibility to integrate education and training according to their own needs. Also, an entitlement system, unlike contracting which we showed distorts natural private sector incentives, would tap private providers' built-in incentives to offer effective short-term training at low cost. Because of these incentives lacked by public schools, private sector training would probably be more flexible to accommodate students with varied schedules. Short and intense training would result in public efficiencies through lowered teacher and building-use costs, as well as private (or individual) efficiencies by reducing students' foregone income (see Wilms, 1975). Also, as new and varied providers entered the market, student choice would be widened.

But vouchers or entitlements are beset with their own problems. First, because shifting resources and decision-making to students so bluntly threatens the public schools' economic and political interests, it is unlikely that support for such an effort or even a major experiment could be found. In the late 1960's the Office of Economic Opportunity designed a large scale voucher experiment. But only one public school system, Alum Rock, California, could be found willing and able to resist organized teacher opposition to the idea. But because the opposition succeeded in restricting the experiments' design, few of the key ideas behind vouchers could be tested.

The recent unsuccessful effort by Berkeley law professors John Coons and Stephen Sugarman to appeal directly to California voters for a voucher system attests to the tenacity of existing public school interests. Organized school interests, which in the past successfully thwarted efforts to test the voucher concept on a limited basis, successfully headed off the statewide initiative. Ironically, much of their campaign against the initiative centered on the unknown consequences of vouchers, which could have been discovered through limited experimentation. While problems an education and training entitlement system might be anticipated and overcome, it is more likely that such a system's strengths and weaknesses can be evaluated only through large scale experimentation.

3. The National Institute of Education should put a priority on supporting research that has the aim of guiding the redefinition of public vocational education to meet late 20th-century needs.

In the course of this study we have drawn on evidence that suggests success in the labor market of the late 20th-century will depend on employees' abilities to read, write, compute, think and get along with their fellow workers more than their occupational skills. Further, the study concluded that entry-level job training can probably be done more efficiently in the private sector. We think the National Institute of Education should invest in helping to redefine vocational education so that it supports the development of these more general human abilities and capacities.

Discussion

In Chapter 1 we pointed out how vocational education grew from its roots in 19th-century manual training which held broad human development as its highest aim. Manual training advocates thought that integrating mental and manual activity resulted in superior education. But as industry intensified its demand for trained manpower, and pressures built to assimilate immigrants into the American value system through public education, manual training was pushed aside in favor of vocational education which promised to adjust new Americans to the industrial order. Clearly, the more narrowly conceived industrial or vocational education sprang from quite different assumptions.

Manual training assumed education was a process that develops students from within, but vocational education, which stopped short of any intent to educate the whole person, was assumed to be a training process for transfering externally defined skills.

Another key difference between manual training and vocational education lay in the purposes of manual experience, or "hands-on" education. Shop experience to the manual trainer for example, was a way to integrate theory and practice to teach abstract concepts as part of all students' general, liberal education. But shop experience to the vocational educator has become mostly a way of teaching specific occupational skills to students who do not fit in the academic track.

Growing interest in rethinking vocational education's contribution to academics and student development is evident. The Richmond Plan, a program designed to reclaim average and often underachieving youngsters is a good example. Developed in the early 1960's and named after its host high school in California, the Plan drew on vocational education's potential in fostering cognitive development through application. Children learned English, physics, drafting and algebra through mechanisms that interest teenagers like internal combustion engines and photography. In 1968 the Stanford Research Institute evaluated the Plan and concluded that students showed marked improvement over a control group in their school attendence, grades, positive personal change and career goals (Kincaid, 1968).

Experiments that have grown out of Career Education underscore the importance of educative experience in the development of students' fuller human potential. The Career Intern Program, supported by the National Institute of Education, offers persuasive evidence that students' development and academic performance can be dramatically improved through carefully designed experiences that foster an increase in their sense of competence and control over their own lives. More recently, data from evaluations of the Experience Based Career Education model give added emphasis to the central importance of experience and activity in education. Data and Rieder (1979) and Silberman (1979) conclude that students in these programs increase their self direction and confidence, improve their ability to effectively communicate with adults and learn how to muster resources to achieve their own goals.

We think research that aims at better understanding the function of experience in education should not overlook high school programs. High school years are vitally important to youngsters' development as they navigate the difficult tasks of becoming adults. Sadly, growing evidence of students' alienation from high school points to its increasing irrelevance in fostering students' development and growth. And, as long as vocational education remains apart from academics in the high school, the concept of a common curriculum for all children remains but an ideal. We think that vocational education, with its unique educational approach through experience, holds great promise for reforming general education and breathing new life into the democratic vision of the common curriculum.

APPENDIX 1

PERSISTENCE

Graduates were asked when they left their school (Q.8.) This date was projected back into months and the calculation of a student's persistence in school followed straightforwardly.

Standardized Persistence Scores

A central question in this research is how persistence is related to job placement and earnings. When comparing people on these variables, we have to take into account institutional differences in the lengths of programs. Electronic technician programs, for example, tend to be longer while dental assisting programs tend to be shorter. Similarly, private programs tend to be shorter than public programs (see Table A1).

To control these built-in differences, persistence scores were standardized witnin each of the sixteen program types--public and proprietary accounting (males and females),programming (males and females), electronic technician, secretarial, dental assisting and cosmetology. The distribution of standardized persistence scores within each of those cells has a mean of 0 and a standard deviation of 1. This enables the comparison of the effects of persistence across program types independent of institutional differences in program length.

TABLE A1

AVERAGE PERSISTENCE BY OCCUPATIONAL PROGRAM, SEX, AND TYPE OF SCHOOL (IN MONTHS)

Occupational Program	Type of School Public	Proprietary
Accounting (Males)	12.13	10.41
Accounting (Females)	13.26	9.09
Programming (Males)	12.36	9.41
Programming (Females)	12.83	6.07
Electronic Technicians (Males)	15.87	14.95
Secretarial (Females)	12.00	8.34
Dental Assisting (Females)	11.38	4.42
Cosmetology (Females)	11.80	10.69

APPENDIX 2

EGO DEVELOPMENT

Ego development, originally conceived by Adler (1956), was operationalized recently by Loevinger (1970) and is measured from the results of sentence completion tests. The development of one's ego (or self) is seen as moving through various stages, each of which has its own characteristics, as indicated in the table on the following page. Low ego development is characterized partly by impulsiveness, opportunistic behavior, and dependence on extrinsic standards. Higher levels of ego development are characterized by tolerance for ambiguity, conceptual complexity, and inner-directedness.

Fred L. Strodtbeck, Director of the University of Chicago's Social Psychology Laboratory, developed a connection between Loevinger's concept of ego development and its relationship to the achievement motive at the lower ego levels can be characterized by a striving for material things, through narrowly goal-oriented behavior. At the mid-levels, achievement motivation takes on a new dimension of needs for social approval and objective accomplishment. At the upper ranges, inner standards come into play and self-realization in part supplants the externally-oriented achievement motive.

Strodtbeck has established positive correlations between ego development and Rotter's Internal-External Scale (r=.16), and Coopersmith's Self Esteem Scale (r=.21) that measure elements of the achievement motive. Positive relationships between ego development and McClelland's nAch have also been demonstrated, although they have not been published yet.

Each of the beginning students completed a sentence completion test, which was scored by trained scorers under the supervision of Stephen Hansell then with the University of Chicago's Social Psychology Laboratory. The total protocol rating between each of the four scorers and Hansell ranged from .76 to .88.

In order to provide a better understanding of the concept, we have provided some examples taken from student responses to sentence completions at different ego levels.

We chose the sentence stub: Education . . . .

A subject at the △ level would be likely to respond:

Education . . . "is a good thing to have."

A subject at the 3/4 level would be likely to respond:

Education . . . "is a very important step in life."

A subject at the 3 level would be likely to respond:

Education . . . "is very important to get a job."

A subject at the 5 level would be likely to respond:

Education . . . "seems valuable in itself."

The first response at the delta level represents a relatively low level of ego development because the △ person perceives education as something to possess, but with no clear objective or reasons. The level 3 response represents a higher degree of responsibility in terms of job orientation, and the utilization of education as a means to another end--the end in this sense (a job) is external to the subject, and conforming in nature. The 3/4 person no longer sees education as a concrete entity that one can possess, or strictly as a means to an end, but rather as a part of the process of life and the future. In the level 5 score, education is viewed as having intrinsic value, and its use is self-determined, rather than conforming.

TABLE A2

SOME MILESTONES OF EGO DEVELOPMENT

Stage	Code	Impulse Control, Character Development	Interpersonal Style	Conscious Preoccupations	Cognitive Style
Presocial Symbiotic	I-1		Autistic Symbiotic	Self vs. non-self	
Impulsive	I-2	Impulsive, fear of retaliation	Receiving, dependent, exploitive	Bodily feelings, especially sexual and aggressive	Stereotypy, conceptual confusion
Self-protective	Δ	Fear of being caught, externalizing blame, opportunistic	Wary, manipulative, exploitive	Self-protection, wishes, things, advantage, control	
Conformist	I-3	Conformity to external rules, shame, guilt for breaking rules	Belonging, helping, superficial niceness	Appearance, social acceptability, banal feelings, behavior	Conceptual simplicity, stereotypes, cliches
Conscientious	I-4	Self-evaluated standards, self-criticism, guilt for consequences, long-term goals and ideals	Intensive, responsible, mutual, concern for communication	Differentiated feelings, motive for behavior, self-respect, achievements, traits, expression	Conceptual complexity, idea of patterning
Autonomous	I-5	Add: Coping with conflicting inner needs, toleration	Add: Respect for autonomy	Vividly conveyed feelings, integration of physiological and psychological, psychological causation of behavior, development, role conception, self-fulfillment, self in social context	Increased conceptual complexity, complex patterns, toleration for ambiguity, broad scope, objectivity

TABLE A2 (CONT.)

Stage	Code	Impulse Control, Character Development	Interpersonal Style	Conscious Preoccupations	Cognitive Style
Integrated	I-6	Add: Reconciling inner conflicts, renunciation of unattainable	Add: Cherishing of individuality	Add: Identity	

Note.--"Add" means in addition to the description applying to the previous level.

Source: Loevinger, Jane, and Wessler, Ruth, Measuring Ego Development, Vol. 1, San Francisco: Jossey-Bass, 1970.

APPENDIX 3

SOCIAL PRAGMATISM FACTOR LOADING SCORES

Table A3 shows the results of factor analyzing variables 31 C, D and E yielding principal components, rotated with a Varimax procedure, with Kaiser normalization. Factor scores were computed for each individual and used in subsequent analyses.

TABLE A3

FACTOR ANALYSIS OF VARIABLES 31 C, D and E

Variable	Factor Loadings
V31C	.45
V31D	-.50
V31E	.49

APPENDIX 4

JOB TENURE

One important influence on earnings is how long a person has had his or her job, or job tenure. Since we need to examine the effects of persistence and other variables on earnings, unconfounded by job tenure, it is used as a covariate to control its effects. Job tenure is calculated by subtracting the date of job entry (Q.14) from the date of the questionnaire (e.g. Wave 1: Feb 75, Wave 2: Aug 75, Wave 3: Feb 76). See Table A4.

TABLE A4

JOB TENURE AND Q.14 CODING

Job Tenure	W1 Q.14 Code	W2 Q.14 Code	W3 Q.14 Code
3 months	8	3,4,5	3,4,5
6 months	7	1,2	1,2
9 months	6	--	--
13 months	4,5	--	--
17 months	2,3	--	--
18 months or more	1	--	--

APPENDIX 5

INFLATION FACTORS

To be able to compare the first-job earnings of graduates who secured their jobs as much as 3 years apart, we had to take into account the inflation of wages over that time period. The Bureau of Labor Statistics provided us with inflation indices for the four cities based on the increase in cost of the typical basket of groceries occurring each month or quarter.* We then computed the percentage of price inflation from the date students entered the programs (Sept.-Oct. 1973) until the date of their first reported employment. (See Tables A5-A8)

Likewise, students reported their current job income at one of 3 times separated by 6 month intervals, according to their follow-up wave. To compare current job earnings, we computed the percentage of inflation which occurred between each 6 month interval. (See Table A9)

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*The Bureau of Labor Statistics keeps no figures on Miami. We used the index for Atlanta, as the nearest major city.

TABLE A5

INFLATION RATES FOR FIRST EARNINGS

(SAN FRANCISCO)

Date entered first job	Percent inflation
Oct. 73 or before	0.0
Nov.-Dec. 73	0.5
Jan.-April 74	3.5
May-June 74	6.9
July-Sept. 74	10.1
Oct.-Dec. 74	13.1
Jan. 75-March 75	16.0
April-June 75	17.9
July-Sept. 75	20.1
Oct.-Dec. 75	22.1
Jan.-March 76	23.0

TABLE A6

INFLATION RATES FOR FIRST EARNINGS

(ATLANTA-MIAMI)

Date entered first job	Percent inflation
Oct. 73 or before	0.0
Nov.-Dec. 73	1.4
Jan.-April 74	5.2
May-June 74	7.4
July-Sept. 74	11.4
Oct.-Dec. 74	13.8
Jan. 75-March 75	15.7
April-June 75	17.4
July-Sept. 75	20.2
Oct.-Dec. 75	21.3
Jan.-March 76	21.6

TABLE A7

INFLATION RATES FOR FIRST EARNINGS

(BOSTON)

Date entered first job	Percent inflation
Oct. 73 or before	0.0
Nov.-Dec. 73	2.4
Jan.-April 74	4.7
May-June 74	7.9
July-Sept. 74	10.3
Oct.-Dec. 74	12.8
Jan.-March 75	14.6
April-June 75	17.5
July-Sept. 75	18.8
Oct.-Jan 76	23.9
Feb.-March 76	24.4

TABLE A8

INFLATION RATES FOR FIRST EARNINGS

(CHICAGO)

Date entered first job	Percent inflation
Oct. 73 or before	0.0
Nov.-Dec. 73	1.6
Jan.-Feb. 74	4.5
March-April 74	6.2
May-June 74	8.2
July-Sept. 74	10.7
Oct.-Dec. 74	13.8
Jan.-March 75	14.7
April-May 75	15.1
June 75	16.3
July 75	17.6
Aug. 75	18.2
Sept.-Oct. 75	18.6
Nov. 75	19.4
Dec. 75	19.8
Jan.76	19.2
Feb. 76	20.0
March 76	22.5

TABLE A9

INFLATION RATES FOR REPORT OF CURRENT EARNINGS

Location and dates	Wave	Percent inflation
San Francisco		
Feb. 75	1	0.0
Aug. 75	2	3.5
Feb. 76	3	6.1
Atlanta (Miami)		
Feb. 75	1	0.0
Aug. 75	2	3.9
Feb. 76	3	5.1
Boston		
Feb. 75	1	0.0
Aug. 75	2	4.2
Feb. 76	3	9.9
Chicago		
Feb. 75	1	0.0
Aug. 75	2	3.0
Feb. 76	3	4.6

APPENDIX 6

national opinion research center

NORC

UNIVERSITY OF CHICAGO

New York Office
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2/76

Please read every question, and for each one circle the answer that fits you best.

Example: What is your favorite season of the year?

Winter 1
Spring . . . . [✓ 2]
Summer 3
Fall 4

In a few questions, there are special instructions. Please follow them.

IMPORTANT NOTE: Whenever you see the phrase THIS SCHOOL, it refers to

BEGIN DECK 01
8/R
9-10/01

We understand that you were attending THIS SCHOOL in the Fall of 1975.

1. Are you currently enrolled in THIS SCHOOL?

Yes (GO TO QUESTION 2). 1 11/
No (PLEASE SKIP TO PAGE 3). . . 2

2. In which program are you enrolled?

Secretary 1 12/
Cosmetologist 2
Electronic Technician 3
Dental Assistant. 4
Computer Programmer 5
Accountant. 6
Other (What is it?) 7

____

3. When do you plan to graduate?

Between March & June, 1976. . . 1 13/
Between July & December, 1976 . 2
Between January & June, 1977. . 3
July, 1977 or after 4
I don't plan to graduate. . . . 5

4. How good do you think your chances are of finishing this program . . .

excellent,. 1 14/
medium, 50/50, or 2
not so good?. 3

5. How many hours a week do you spend in class?

5 hours or less 1 15/
6 to 10 hours 2
11 to 15 hours 3
16 to 20 hours 4
21 to 25 hours 5
26 hours or more 6

6. How would you rate the training you are receiving at THIS SCHOOL using a scale from 1 to 5, where #1 is the best possible training and #5 is the worst possible training.

PLEASE CIRCLE ONE NUMBER.

1	2	3	4	5	16/
Best				Worst	

7. Do you work for pay?

Yes (PLEASE ANSWER A&B). . 1 17/
No 2

IF YES:

A. On the average, how many hours a week do you work for pay?

5 hours or less per week. 01 18-19/
6 to 10 hours 02
11 to 15 hours 03
16 to 20 hours 04
21 to 25 hours 05
26 to 30 hours 06
31 to 35 hours 07
36 to 40 hours 08
41 hours or more 09

B. How much do you earn before taxes? 20/

PLEASE FILL IN ONE LINE ONLY.

Per hour $______________
Per week $______________
Per month $______________ 21-27/

THOSE CURRENTLY ENROLLED IN THIS SCHOOL ("YES" TO QUESTION 1) SHOULD NOW SKIP TO PAGE 6.

PAGES 3, 4 AND 5 SHOULD BE FILLED OUT ONLY BY THOSE WHO NO LONGER ATTEND THIS SCHOOL (ANSWERED "NO" TO QUESTION 1)

8. When did you leave THIS SCHOOL?

Before December, 1975. . . . . . 1 28/
In December, 1975. 2
In January, 1976 3
In February, 1976. 4
In March, 1976 or later. 5

9. Did you graduate from THIS SCHOOL?

Yes. 1 29/
No (PLEASE ANSWER A) 2

IF NO:

A. People have many reasons for leaving school. In your case, what was the one most important reason?

Financial reasons. 1 30/
I finished what I enrolled for. 2
Transportation was hard. 3
I didn't like the vocation I was enrolled for 4
I found a good job and didn't need to finish. . . . 5
Family obligations 6
I wanted to go to a four year college 7
Some other reason (What was that?)____________________
______________________________ 8

10. How would you rate the training you received at THIS SCHOOL using a scale from 1 to 5, where #1 is the best possible training and #5 is the worst possible training?

PLEASE CIRCLE ONE NUMBER.

1	2	3	4	5	31/
Best				Worst	

11. We would like to know what you think about your education at THIS SCHOOL. Please indicate whether you Agree Strongly, Agree Somewhat, Disagree Somewhat, or Disagree Strongly with each of the following statements by circling the number in the appropriate column.

CIRCLE A SINGLE NUMBER FOR EACH ITEM FROM A-E.

	Agree Strongly	Agree Somewhat	Disagree Somewhat	Disagree Strongly	
A. School made me feel that this was the type of work I wanted to do.	1	2	3	4	32/
B. School wasted my time and delayed my career .	1	2	3	4	33/
C. School made an important contribution to my general education. .	1	2	3	4	34/
D. School made it more likely that an employer would consider me for a responsible job	1	2	3	4	35/
E. School provided me with training I couldn't have gotten otherwise .	1	2	3	4	36/
F. It cost me more money than it was worth . . .	1	2	3	4	37/

12. If you had it to do over, would you choose THIS SCHOOL and the same program?

Yes. 1 38/
No (PLEASE ANSWER A) 2

IF NO:

A. What would you do differently?

Go to the same school but take a different program . . 1 39/
Go to a different school but take the same program. . 2 40/
Go to a 4 year college 3 41/
Something else (What is that?)____________________
______________________________ 4 42/

13. Do you have a job at the present time?

Yes 1 43/
No (PLEASE ANSWER A). 2

IF NO:

A. Did you ever have a job for pay after leaving THIS SCHOOL?

Yes (GO TO QUESTION 14) . . 1 44/
No (PLEASE SKIP TO QUESTION 22). 2

QUESTIONS 14 THROUGH 21 SHOULD BE ANSWERED ABOUT YOUR PRESENT JOB (IF YOU HAVE ONE), OR THE LAST JOB YOU HAD.

14. When did you begin your most recent job?

Before December, 1975 . . . 1 45/
December, 1975. 2
January, 1976 3
February, 1976. 4
March, 1976 or later. . . . 5

15. What exactly were you doing when you first started working for that employer — what were your main duties?

46-48/

16. How many hours per week did you work when you started working for that employer?

5 hours or less per week. .01 49-50/
6 to 10 hours 02
11 to 15 hours 03
16 to 20 hours 04
21 to 25 hours 05
26 to 30 hours 06
31 to 35 hours 07
36 to 40 hours 08
41 hours or more 09

17. What was your beginning weekly salary on that job — before taxes?

$50 or less per week . . 01 51-52/
$51 to $75 02
$76 to $100. 03
$101 to $125 04
$126 to $150 05
$151 to $175 06
$176 to $200 07
$201 to $250 08
$251 to $300 09
$301 or more 10

18. How many hours per week are you working now, or did you work on your last job just before it ended?

5 hours or less per week 01 53-54/
6 to 10 hours. 02
11 to 15 hours. 03
16 to 20 hours. 04
21 to 25 hours. 05
26 to 30 hours. 06
31 to 35 hours. 07
36 to 40 hours. 08
41 hours or more. 09

19. Before taxes, what is your weekly salary now, or what was it on your last job just before it ended?

$50 or less per week . . 01 55-56/
$51 to $75 02
$76 to $100. 03
$101 to $125 04
$126 to $150 05
$151 to $175 06
$176 to $200 07
$201 to $250 08
$251 to $300 09
$301 or more 10

20. Where did you get your most useful training for that job — was it . . .

in THIS SCHOOL, ... 1 57/
in high school, ... 2
in another school, ... 3
on the job, ... 4
did you pick it up on your own, or 5
didn't the job really require much training?. 6

---

21. Using a scale from 1 to 5 where #1 is most important and #5 is least important, how important was the training you received at THIS SCHOOL in terms of getting that job?

PLEASE CIRCLE ONE NUMBER.

1 2 3 4 5 58/
Most important
Least important

---

22. How much time altogether, since you left THIS SCHOOL, have you been unemployed and looking for work?

None. 01 59-60/
Less than 2 weeks 02
2 weeks but less than 1 month . . .03
1 month but less than 2 months. . .04
2 months but less than 4 months . .05
4 months but less than 6 months . .06
6 months but less than 8 months . .07
8 months but less than 10 months. .08
10 months but less than 12 months. .09
12 months or more. 10

---

23. Did you get any more schooling after you left THIS SCHOOL?

Yes (PLEASE GO TO QUESTION 24). . . 1 61/
No (PLEASE SKIP TO PAGE 6). 2

---

24. What kind of school are (or were) you enrolled in since leaving THIS SCHOOL?

A private vocational school (business or trade school) 1 62/
A public vocational school (community college vocational program). 2
A public general education program (community college or adult school). . . 3
A 4-year college 4
Other educational program (PLEASE SPECIFY)
____________________________5

---

25. Are you enrolled now?

Yes (GO TO QUESTION 26) 1 63/
No (PLEASE SKIP TO PAGE 6). . . . 2

---

26. How many hours a week do you spend in class?

5 hours or less. 1 64/
6 to 10 hours. 2
11 to 15 hours. 3
16 to 20 hours. 4
21 to 25 hours. 5
26 hours or more. 6

---

27. How would you describe your present school program — Is it primarily . . .

a general academic program, or. . 1 65/
an occupational one?. 2

---

28. What degree or diploma is this program leading to?

None. 1 66/
Occupational certificate or diploma 2
Associate's degree. 3
Bachelor's degree 4
Another kind of degree (What is that?)______________
________________________5

---

29. How good do you think your chances are of finishing this program . . .

excellent,. 1 67/
medium, 50/50, or 2
not so good?. 3

BEGIN DECK 02

PLEASE FOLLOW INSTRUCTIONS CAREFULLY.
THE REST OF THE QUESTIONS SHOULD BE ANSWERED BY EVERYONE

30. Do you expect to get any further education (in addition to what you may be getting now)?

Yes (PLEASE ANSWER A) 1 11/
No. 2

IF YES:

A. What is the highest level you expect to reach in school . . .

get more vocational training, . . . 1 12/
get a bachelor's degree, ... 2
get a graduate degree (Master's or Ph.D.), or 3
something else? (What is that?)____________________ 4

31. The following questions (A THROUGH H) ask your opinion on what a person needs besides technical training to do well in his job. As you answer them, think about the specific kind of job for which you are or were training at THIS SCHOOL. Please answer "yes" or "no" for each.

	Yes	No	
A. Would you agree that being successful in this kind of job is a matter of hard work, and that luck has little or nothing to do with it? . . .	1	2	13/
B. Is it important to be in the right place at the right time to get a good job in this field?.	1	2	14/
C. In this job, is it necessary to say or do things that others will like?. .	1	2	15/
D. Can a person in this job speak his or her own mind without fear?. . .	1	2	16/
E. To be successful in this job, is it frequently necessary to be able to tell a lie with a straight face?.	1	2	17/
F. Would it be particularly difficult for you to tell a lie if it were required in this kind of job?.	1	2	18/
G. In the training at THIS SCHOOL, are good grades always the result of hard work?.	1	2	19/
H. Are teachers at THIS SCHOOL often unfair to students in their grading? .	1	2	20/

Now a few more things on different topics.

32. Have you ever had any financial aid loans while you were at THIS SCHOOL?

Yes (PLEASE GO TO QUESTION 33). . 1 21/
No (PLEASE SKIP TO QUESTION 35) . 2

33. Have you begun repaying your loan or haven't you done that yet?

Have begun repaying (PLEASE SKIP TO QUESTION 35). 1 22/
Haven't begun repaying (PLEASE GO TO QUESTION 34). . . 2

34. Please indicate how you feel about each of the following statements by circling the appropriate number under the Agree or Disagree column.

	Agree	Disagree	
A. When I took out the loan I planned to repay it, but chances are I won't get the job I wanted and I might not pay it back	1	2	23/
B. I plan to begin repaying the loan as soon as it is due.	1	2	24/
C. I never really understood the terms of my loan.	1	2	25/
D. My school ripped me off and I don't feel responsible for the loan.	1	2	26/

35. How would you describe your political views — Are they . . .

far left, ... 1 27/
liberal, ... 2
middle-of-the-road, ... 3
conservative, ... 4
far right, or. 5
do you have no feelings about politics?. 6
I do not understand question . . 7

To be sure that you receive your check, please print your name and present mailing address below. The report on the study will also be mailed to this address.

Name: ______________________________

Address: ______________________________

City, State, Zip Code: ______________________________

Telephone Number: ______________________

Please seal this booklet and drop it into a mailbox. No envelope or postage is necessary.

Thank you very much for all your help!

CASE # ______________

INTERVIEWER ______________
